NOTE TO USERS

This reproduction is the best copy available.

UMI®

University of Alberta

Sustainable Tourism Development: A Comparison Between Tanzania and Kenya

by ©

Cyril August Chami

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfilment
of the requirements for the degree of Doctor of Philosophy

in

Agricultural and Resource Economics

Department of Rural Economy

Edmonton, Alberta

Spring 2002

National Library of Canada
Acquisitions and Bibliographic Services
395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale du Canada
Acquisitions et services bibliographiques
395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-68552-7

Canada

University of Alberta

Library Release Form

Name of Author:	Cyril August Chami
Title of Thesis:	Sustainable Tourism Development: A Comparison Between Tanzania and Kenya
Degree:	Doctor of Philosophy
Year Degree Granted:	2002

Permission is hereby granted to the University of Alberta Library to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves all other publication and other rights in association with the copyright in the thesis, and except as herein before provided, neither the thesis nor any substantial portion thereof may be printed or otherwise reproduced in any material form whatever without the author's prior permission.

117 Michener Park
Edmonton , Alberta
CANADA T6H 4M4

November 19, 2001

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis titled "Sustainable Tourism Development: A Comparison Between Tanzania and Kenya" submitted by Cyril August Chami in partial fulfillment of the requirements of the degree of Doctor of Philosophy in Agricultural and Resource Economics.

Dr. W. L. Adamowicz (Supervisor)
Department of Rural Economy

T. S. Veeman
Dr. T. S. Veeman (Committee Member)
Department of Rural Economy

Michele Veeman
Dr. M. M. Veeman (Committee Member)
Department of Rural Economy

Dr. L. S. Wilson (Committee Member)
Department of Economics

Dr. M. K. Luckert (Committee Chair)
Department of Rural Economy

Dr. E. Wilman (External Examiner)
Department of Economics,
University of Calgary

Date: November 15, 2001

DEDICATION

This work is dedicated to the men and women throughout the world who give up their comfort to bring about a genuine emancipation from poverty, ignorance and disease to the poor in Africa.

ABSTRACT

In this study, the Almost Ideal Demand Systems (AIDS) model and the Stated Preference Method (SPM) are used to analyze demand for tourism—a key economic sector—in Tanzania and Kenya. In tandem with a review of existing tourism studies in the region, the models' findings compare the performance of the sector in the two nations and examine whether or not the region's current levels of tourism development are sustainable.

The findings of the AIDS model indicate that during the entire period of the study (1970-1998), Kenya, which promoted pro-market policies after independence, has performed better than Tanzania, which adopted socialist policies for two decades since 1967, in key tourism indicators. However, during the 1990s, Tanzania is shown to have performed relatively better than Kenya, a credit to the pro-market policies the country adopted since the late 1980s, its more natural tourist sites, and its internal tranquility. Results also indicate that the two countries are substitute tourism markets for each other, an important finding as it questions the suggestions of promoting Tanzania, Kenya and Uganda as a single tourism destination under the recently re-established East African Community.

The SPM results and the surveyed studies show that while Kenya is better known abroad, attracts more affluent tourists and has better services, Tanzania is renowned for the unique nature of its wildlife, its potential for future development, and its relatively less spoiled habitats. However, of concern to Tanzania is that most of the services that Kenya is better at providing are rated in the SPM estimation as important determinants of the likelihood of choosing a country as a tourism destination. In both countries tourism

has had little or no benefit to local people, and this discourages them from conserving wildlife habitats. Tourism in East Africa has also been developed without due consideration to the environment, leading to soil erosion, deforestation, and extinction of rare wildlife species. It is recommended that in order to enhance tourism sustainability in the region, a concerted effort be made to improve services, to protect environment and most importantly, to provide more proceeds to the local people.

ACKNOWLEDGMENTS

I would like to thank some institutions and individuals whose assistance has enabled me to complete this thesis and my study program. First, my thanks go to the African Economic Research Consortium (AERC) for funding my studies in Canada. Within the AERC, I would like to give special thanks to Professor William Lyakurwa, the Deputy Executive Director and Director of Training, who, as my professor when I was an undergraduate student, inspired and encouraged me to pursue higher studies. He has since been instrumental in every step of my academic journey.

Second, I would like to thank my supervisors, Professors Wictor (Vic) Adamowicz and Terrence (Terry) Veeman, for their insights, encouragement and patience, as they endured the hard task of reading this work several times. My thanks also go to the other members of my examination committee, Professors Michele Veeman and Sam Wilson, and the entire staff of the Rural Economy Department.

Third, this study's data collection was made possible by research grants from four institutions, namely, the AERC, the Fund for Studies on International Activities (FSIDA), the International Development and Research Cooperation (IDRC) and the Hawkins Scholarship Fund. To these institutions I express my heartfelt gratitude. I would also like to thank Vic and Terry who coordinated the efforts to secure these grants and the Economic and Social Research Foundation (ESRF) in Tanzania for administering the IDRC part of the grant.

Fourth, I wish to thank the governments of Kenya and Tanzania for giving me the permission to collect data in these countries. I would like to especially thank all the officials in the ministries and other institutions, non-governmental organizations (NGOs) and individuals who volunteered information on the policy issues. Mr Ian Masekesa (Tourism Section, Ministry of Environment and Tourism in Tanzania) and Elizabeth Liatoro (Nairobi National Park in Kenya) deserve special mentioning for their unconditional assistance. To the tourists who volunteered answers to the questions posed in the study's questionnaires, no amount of words can express my gratitude. Thank you very much. I also wish to acknowledge the kindness of the AERC and ESRF management for offering me some office space and computer facilities while I was collecting data in Africa. Special thanks should go to Alice Wamae and Joy Magiri of AERC's Training Department, and Prof Sam Wangwe, Ms Evenerda Minja, John Kajiba, Lucy Makundi and Alex Mwinuka of ESRF. And while in Nairobi, my assistant and I were accorded hospitality by the leaders and members of the Apostles of Jesus Major Seminary at Langata. Whilst for ever grateful to all the priests and seminarians for their brotherly love, I wish to particularly mention and thank Fr Dennis Mrosso and Fr Nicomedi Mwacha for their numerous acts of kindness to us.

Fifth, I wish to acknowledge the assistance I received from Brendan Sallema, Caroline Soka and Germana Mselle in collecting the study's data. In the same manner, I wish to thank Dr. Dave Clyburn, from whom I learned some writing techniques and who edited earlier versions of this work, and my fellow graduate students in the Rural Economy Department for their friendship and assistance whenever I needed help.

I wish to finish this acknowledgement by thanking my big extended family of relatives and friends—both here in Canada, Tanzania and around the world—for supporting me and offering their prayers for a successful completion of my program. My wife Victoria and our children endured all it takes to support me as a student; to them I

give a big “thank you.” To all the persons mentioned here and those I could not mention, I ask God, who is the source of life, wisdom and knowledge, to bestow His abundant blessings upon them.

TABLE OF CONTENT

CHAPTER 1: INTRODUCTION 1

1.0 General Background 1

1.1 The Role of Tourism in Economic Development 2

1.2 The Need for Sustainable Tourism Development 5

1.3 Statement of the Problem and Objectives of the Study 8

1.4 Thesis Organization 10

CHAPTER 2: THE REGION'S SETTING: THE ECONOMY, THE ENVIRONMENT AND TOURISM 11

2.0 Introduction 11

2.1 Tanzania's Profile 11

2.1.1 Physical Background of Tanzania 11

2.1.2 History & People 14

2.1.3 The Economy 15

2.1.4 Tanzania's Major Tourist Attractions 17

2.1.4.1 Lake Manyara National Park 18

2.1.4.2 Gombe Stream National Park 18

2.1.4.3 Mikumi National Park 19

2.1.4.4 Mt Kilimanjaro National Park 19

2.1.4.5 Muhale Mountains National Park 20

2.1.4.6 Ngorongoro Crater Conservation Area 20

2.1.4.7 Ruaha National Park 21

2.1.4.8 Selous Game Reserve 21

2.1.4.9 Serengeti National Park 22
2.1.4.10 Tarangire National Park 22
2.1.4.11 Lake Tanganyika 22
2.1.4.12 Zanzibar 23
2.1.4.13 Dar Es Salaam 23
2.2 Kenya's Profile 24
2.2.1 Physical Background 24
2.2.2 History and Government 26
2.2.3 Population and the Economy 27
2.2.4 Tourism and Tourist Attractions 29
2.2.4.1 Aberdare National Park 29
2.2.4.2 Masai Mara Game Reserve 30
2.2.4.3 Amboseli National Park 30
2.2.4.4 Lake Nakuru National Park 31
2.2.4.5 Marsabit National Park 31
2.2.4.6 Meru National Park 31
2.2.4.7 Mount Kenya 32
2.2.4.8 Nairobi National Park 32
2.2.4.9 Samburu and Buffalo Springs 33
2.2.4.10 Tsavo East National Park 33
2.2.4.11 Tsavo West National Park 33
2.2.4.12 The Coastline 34
2.3 A History of Tourism and Conservation Policies in Tanzania and Kenya 34

2.3.1 Pre-Independence Era 34

2.3.2 Tourism Development in Tanzania: From Independence to Present 35

2.3.3 Tourism Development in Kenya: From Independence to Present 40

2.4 Conclusion 43

CHAPTER 3: LITERATURE REVIEW, THEORY AND DERIVATION OF THE AIDS MODEL 45

3.0 Introduction 45

3.1 Market Demand for Tourism 46

3.2 Neo-Classical Theory of Demand 52

3.2.1 Separability and Two/Three Stage Budgeting 57

3.3 Derivation of the AIDS Model 58

3.4 Conclusion 63

CHAPTER 4: DATA, ESTIMATION PROCEDURE AND RESULTS OF THE AIDS MODEL 64

4.0 Introduction 64

4.1 AIDS Data Collection and Management 64

4.2 Estimation Procedure and Hypotheses 66

4.3 Estimation Results 68

4.3.1 Expenditure per Tourist Trends 68

4.3.4 Expenditure Shares versus Tourist Number Shares 75

4.3.5 Tanzania versus Kenya in the 1990s 76

4.3.6 Homogeneity and Symmetry Tests 82

4.3.7 Negativity Test 83

4.3.8 Uncompensated Price and Income Elasticities 83

4.3.9 Expenditure Elasticities 87

4.3.10 Compensated (Hicksian) Price Elasticities 88

4.4 Implications of the AIDS Model Results 89

4.4.1 South Africa vs. Tanzania and Kenya 89

4.4.2 Market Substitutability/Complementarity 91

4.4.3 The Role of Internal Condition and Policies 95

4.5 Conclusion 96

CHAPTER 5: SPM LITERATURE REVIEW, MODEL, DATA 98

5.0 Introduction 98

5.1 Literature on Non-Market Tourism Studies 98

5.1.0 An Overview 98

5.1.1 Using RP Models to Forecast Demand 100

5.1.2 Using Stated Preference/Choice Method to Forecast Demand 103

5.2 Derivation of the Multinomial Logit Model 108

5.2.1 The Random Utility Theory 108

5.2.2 Estimation of the Multinomial Logit (MNL) Model 112

5.2.3 Nested MNL Models 113

5.2.4 Test of Taste Variation 114

5.3 SPM Data Collection and Management 116

5.3.1 Survey Sample 116

5.3.2 Design of Stated Choice Experiment 117

5.3.2.1 Choice Set 117

5.3.2.2 Attributes and Levels 119
5.3.2.3 Statistical Design 122
5.3.2.4 Effects Coding 122
5.4 Conclusion 126

CHAPTER 6: SPM RESULTS 127

6.0 Introduction 127
6.1 Socio-Economic Characteristics 127
6.1.1 Survey Response Rate 127
6.1.2 Prior Visits to Tanzania or Kenya 128
6.1.3 Age of Respondents 128
6.1.4 Nationalities of Respondents 129
6.1.5 Respondents' Household Income 130
6.1.6 Length of Visit 132
6.1.7 Motivating Factors to Visit 132
6.1.8 Occupation of Respondents 133
6.2 Results of Estimated Models 134
6.2.1 Market Segmentation 134
6.2.2 Test for IIA Property 136
6.2.2.1 The Goodness of the Fit of the Model 138
6.2.2.2 The "Image" Effect 145
6.2.2.3 Cost/Local Price Effects 147
6.2.2.4 Unique Wildlife Effect 151
6.2.2.5 Park Development Effect 151

6.2.2.6 The Road Quality Effect 152

6.2.2.7 Hotel Costs/Value Effect 153

6.2.2.8 Park Size Effect 154

6.2.2.9 Health Risks 155

6.2.2.10 Number of Animals 155

6.2.2.11 Mode of Travel 155

6.2.2.12 Direct Flights to the Parks 156

6.2.2.13 Camping Cost/Quality 156

6.2.2.14 The Income Effect 157

6.4 Results Implications 162

6.4.1 Implications of the Socio-economic Characteristics 162

6.4.2 Implications of the Stated Preference Estimation Results 164

6.5 Summary and Conclusion 169

CHAPTER 7: TOURISM SUSTAINABILITY AND POLICY ISSUES 171

7.0 Introduction 171

7.1 The Concept of Sustainable Development 172

7.1.0 An Overview 172

7.1.1 Different Meanings of Sustainable Development 173

7.1.2 Weaknesses of Mainstream Perceptions 175

7.2 Competitiveness of Tanzania and Kenya as Tourist Destinations 178

7.3 Local Populations and Sustainable Tourism Development 186

7.3.0 An Overview 186

7.3.1 Tourism and Local People in Tanzania 189

7.3.1.1 Land Ownership and Tourism in Tanzania 189
7.3.1.2 Tourism and Disaffection of Local Communities in Tanzania 190
7.3.1.3 Tourism Benefits and the Local People in Tanzania 193
7.3.2 Tourism and Local People in Kenya 196
7.3.2.1 Land Ownership and Tourism in Kenya 196
7.3.2.2 Benefits to Local People in Kenya 198
7.3.3 The CAMPFIRE Experiment: Lessons for Tanzania and Kenya 202
7.4 Can the Environment Sustain the Current Level of Tourist Activity? 206
7.4.0 An Overview 206
7.4.1 Overcrowding Problems and Sustainability 206
7.4.2 Competition for Resource Use and Tourism Sustainability 210
7.4.2.1 Tourism and Poaching 210
7.4.2.2 Tourism and Seaweed Farming 211
7.4.2.3 Tourism and Beach Erosion 212
7.4.2.4 Tourism and the Extinction of the Ebony Tree 212
7.5 Conclusion 213

CHAPTER 8: CONCLUSION 214

8.1 Research Objectives and Findings 214
8.2 Recommendations 217
8.3 The Major Issue: Sustainability of People's Well-being 220
8.4 Limitations of the Study and Future Research 222

REFERENCES 226

APPENDIX 1: ESTIMATION COEFFICIENTS OF MNL SEGMENTED MARKETS (GROUP 1) 238

APPENDIX 2: ESTIMATED COEFFICIENTS OF MNL SEGMENTED MODELS (GROUP 2) 239

APPENDIX 3: SURVEY INSTRUMENT (GROUP 1) 240

APPENDIX 4: SURVEY INSTRUMENT (GROUP 2) 253

LIST OF TABLES

Table 4.1: Tourism Expenditure Per Tourist 1970-98 (US$, 1995 Prices) 69
Table 4.2: Tourism Expenditure Shares for 1970, Sample Mean, and 1998 74
Table 4.3: Revenue Shares versus Tourist Arrival Shares (%) in Selected Years 76
Table 4.4a: Foreign Tourism Indicators for Tanzania (1970-98).............................. 78
Table 4.4b: Foreign Tourism Indicators for Kenya (1970-98).................................. 80
Table 4.5: LR Tests for Homogeneity and Homogeneity and Symmetry 83
Table 4.6: Eigen Values 83
Table 4.7: Uncompensated Price and Income Elasticities 86
Table 4.8: Expenditure Elasticities Evaluated for 1970, Sample Mean, and 1998 87
Table 4.9: Compensated Own and Cross-Price Elasticities for 1970........................ 88
Table 4.10: Compensated Own and Cross-Price Elasticities at the Sample Mean 89
Table 4.11: Compensated Own and Cross-Price Elasticities for 1998 89
Table 5.1a: Attributes and Levels Used in Choice Experiment (Group 1).............. 121
Table 5.1b: Attributes and Levels Used in Choice Experiment (Group 2).............. 121
Table 5.2: Some Variables with Effects Coding 125
Table 6.1: Survey Response Rate 127
Table 6.2: Have You Been to Tanzania/Kenya Before? 128
Table 6.3: Age of Respondents 129
Table 6.4: Nationalities of Respondents 130
Table 6.5: Income Level (In US$).. 131
Table 6.6: Intended Time to Spend on Vacation 132
Table 6.7: What Motivated Tourists to Visit? 133
Table 6.8: Occupation of Respondents 134
Table 6.9: Estimation Coefficients of Segmented Markets for Group One 139
Table 6.10: Estimation Coefficients of Segmented Markets (Group 2) 142
Table 6.11: Results of LR Test: European, North Americans and OTMs Models .. 161
Table 6.12: Results of Likelihood Ratio Test Based on Where the Tourists were Interviewed: Tanzania and Kenya 161
Table 7.1: Some Environmental Indicators in Tanzania and Kenya 179
Table 7.2: Some Infrastructural Indicators in Tanzania and Kenya 182

LIST OF FIGURES

Figure 2.1: Map of Tanzania 12
Figure 2.2: Map of Kenya 25
Figure 4.1: The Trend of Tourism Expenditure per Tourist in Tanzania, Kenya & S. Africa (1970-1998) 71
Figure 4.2: Shares of Tourist Arrivals in Tanzania, Kenya & S. Africa (1970-1998) 72
Figure 4.3: Total Tourism Revenue Shares for Tanzania, Kenya, and South Africa (1970-1998) 72
Figure 4.4: The Impact of South Africa's Political Change on its Toursim 73
Figure 4.5: Changes in Tourism Revenue Shares in Tanzania, Kenya, and South Africa 75
Figure 4.6: Number of Tourist & Revenue Growth Rates in Tanzania (Selected Years [1982-98] 79
Figure 4.7: The Trend of Tourist Numbers and Revenue Growth rates in Kenya (1982-1998) 81
Figure 6.1: Depiction of the Nested Logit Model for Holiday Destination Choice . 136
Figure 6.2 (a): "The Image Effect" of Tourism in the European Model 146
Figure 6.2 (b): The Image Effect of Tourist Destinations in the American Model .. 147
Figure 6.2 (c): The Image Effect of Tourist Destinations in in the OTMs Model ... 148
Figure 6.3 (a): Effect of Local Prices on Europeans' Probability of Choice 149
Figure 6.3: The Travel Cost (TC) Impact on the Probability of Choice 149
Figure 6.4: The Impact of Local Costs and Quality on the Probability of Choice ... 150
Figure 6.5: The Impact of Unique Wildlife and Park Development on the Probability of Choice 152
Figure 6.6:Hotel Prices/Quality and the Probability of Choice 154
Figure 6.7:Comparison of Camping Costs/Value Across Markets 157
Figure 6.8(a):The Income Effects on the Probability of Choice (Group 1) 158
Figure 6.8 (b):The Income Effects on the Probability of Choice (Group 2) 159
Figure 7.1: Shares of Total Land Conserved for Tourism in Tanzania and Kenya . 180
Figure 7.2: Comparison of Some Infrastructural Indicators in Tanzania and Kenya (1995-99) 183

CHAPTER 1: INTRODUCTION

1.0 General Background

In this study, the demand for tourism in Tanzania and Kenya is analyzed, the performance of tourism in the two nations is compared, and major issues involved in achieving sustainable tourism in the region are assessed. The estimation findings and a qualitative and historical analysis are presented in an attempt to contribute ideas to the formulation of a sustainable tourism policy in the region and especially in Tanzania, which has been implementing liberalization and structural adjustment (LSA) policies since the mid-1980s.

The need for sustainable development in Tanzania is derived from the fact that although some of the LSA policies are credited with achieving increased efficiency and accountability, others have been associated with considerable damage to the environment. For example, Mbelle (1994) pointed out that due to price incentives engendered by the LSA policies, there has been an increase in large-scale prawn fishing using dynamite that has resulted in serious disturbances to marine ecosystems. Similarly, Kulindwa and Mjema (1994) have shown that following the adoption of the structural adjustment policies and the price incentive they engender, there has been a sharp increase in deforestation as a result of an increase in demand for export timber.[1] The increasing local demand for construction timber and fuel wood has exacerbated the problem. The resulting deforestation has contributed to an expanding rate of desertification, which was already affecting 45% of the country and threatening a further 35% following the adoption of the LSA (Mascarenhas and Ford, 1987). In the mining sector, large areas of land in the Arusha, Shinyanga and Mbeya regions have been converted into wastelands by small scale mineral prospectors (Chachage, 1994) and in the Lindi region people have cleared mangrove forests for salt production through the evaporation method.

---

[1] Estimates show that between 300,000 and 400,000 hectares of forests have been cleared every year in Tanzania since the adoption of structural adjustment policies in 1986.

What one deduces from such trends is that development in Tanzania cannot occur without considering trade-offs between economic growth and environmental sustainability. Since both goals are important to Tanzania, policy makers have to find a compromise that—to quote the WECD (Brundtland) Report (1987)—"meets the needs of the present generation without compromising the needs of future generations."

It should be pointed out upfront that sustainable development of any sector is only relevant to the extent that that sector contributes to the sustainability of the well being of the people. Attainment of sustainable development, however, is difficult even for the developed countries, let alone for the developing countries. In his article on Tanzania, Mbelle (1994) pointed out that sustainability is difficult to attain in the country owing to its limited technical flexibility—as seen in the lack of possibilities for substitution in production—and weak institutional capacity to effect desired changes. Since this is the case in most of the developing world, the range of opportunities is limited to promotion of those sectors that do little or no damage to the environment while maintaining a flow of benefits. One such sector is tourism.

1.1 The Role of Tourism in Economic Development

Tourism generates many benefits. First, it is the world's largest export earner and an important factor in the balance of payments of many countries. According to the World Tourism Organization (WTO), foreign currency receipts from international tourism have increased by an average of 9 percent annually from 1980, reaching US$423 billion in 1996. This figure outstripped the corresponding exports of petroleum products, motor vehicles, telecommunications equipment, textiles and any other product or service (WTO, 1998).

Second, travel and tourism are important job creators, employing an estimated 100 million people around the world, mostly in small or medium-sized family-owned enterprises. This number is expected to grow significantly in this century (WTO, 1998).

Third, tourism creates jobs and businesses in the most underdeveloped regions of a country, helping to equalize economic opportunities throughout a nation and providing an incentive for residents to remain in rural areas rather than move to overcrowded cities. Thus, it enhances rural development (Lyogelo, 1991).

Fourth, travel and tourism stimulate enormous investments in new infrastructure, most of which helps to improve the living conditions of local residents as well as tourists. Tourism development projects often include airports, roads, marinas, sewage systems, water treatment plants, restoration of cultural monuments and the building of museums and nature interpretation centres.

Fifth, the tourism industry provides governments with hundreds of millions of dollars in tax revenues each year through accommodation and restaurant taxes, airport users' fees, sales taxes, park entrance fees, employee income tax and many other fiscal measures.

Sixth, international and domestic tourism combined generate up to 10 per cent of the world's Gross Domestic Product (GDP) and a considerably higher share in many small nations and developing countries.

Finally, an additional advantage of tourism over extractive sectors is that if developed with sustainability in mind, it generates a stream of recurring benefits with minimal or no depreciation. Increased benefits from tourism will enable countries mainly dependent on extractive industries such as Tanzania, which depends mainly on agriculture, to ease pressure off those industries and alleviate environmental damage.

As for Tanzania, tourism has performed rather well in recent years. In 1998, the sector ranked first in terms of sector performance, with a 34 percent rise in tourist arrivals from 360,000 in 1997 to 482,331 in 1998 (Bank of Tanzania, 1999). During the same period, spending on tourism increased from US$392.4 million in 1997 to about US$570 million in 1998. An estimate of US$627 million in earnings for 1999 was surpassed when the actual earnings reached approximately US$733.28 million. In the same year (1999), tourism accounted for about 14% of Tanzania's Gross Domestic Product (GDP), making it number two in income generation after agriculture's contribution of 34%. Of this sum, direct expenditures on goods and services by tourists contributed US$664 million. In addition, the proportion of tourism revenue to total exports grew from 12% in 1990 to 36% in 1998 and the Ministry of Finance (1996) earmarked the sector as the main foreign exchange earner by the year 2000.[2]

In terms of job creation, tourism employed 132,000 people in 1998 compared with 110,000 in the same occupation two years previously (Tanzania Tourist Board 1996, 1998). Furthermore, it plays a significant role in reducing rural-urban migration in the country by improving rural development. In the wake of structural adjustment policies, tourism has played a role in stimulating foreign and local investment (Lyogelo, 1991).

1.2 The Need for Sustainable Tourism Development

Despite the advantages listed in section 1.1, development of the tourism industry, if not carefully planned, can have adverse impacts. The problems are especially heavy in developing countries due to the fragile nature of their economic strength and social orientation. In particular, the following problems are or could be associated with tourism development.

First, by its very nature, tourism depends on the goodwill of foreigners. Should tourists, for whatever reasons, stop visiting a country that is heavily dependent on tourism as its mainstay of the economy, that country's economy would suffer a devastating blow. Putting all priorities in tourism may relegate a country into a satellite of its potential market countries, affecting its self-reliance and self-determination.

Second, in order to maintain the international standard of the industry, the country needs to import international standard furniture, cutlery, tinned food, drinks, vehicles, petroleum and the whole sphere of consumer goods needed by tourists. A typical developing country is the major victim of this phenomenon. If care and creativity are not

---

2 The sharp increase in tourism earnings from US$392 million in 1997 to US$732 in 1999 (45.3%) suggests that this goal may be achievable.

blended, developing countries may find themselves sending back to Europe and America through this way more money than the amount they receive as tourism receipts.[3]

Third, tourism is very sensitive to public health problems, which are common in developing countries. For example, if cholera breaks out, almost all tourist movement comes to a halt. This leads not only to economic problems, but also to loss of confidence in the market for extended periods of time after the catastrophe is contained.[4]

Fourth, tourism is also very sensitive and vulnerable to political issues, even of a minor nature such as a deportation of a foreigner by the country of destination. When Uganda deported thousands of Asians in 1972, it lost its tourism industry for a long time. Tribal skirmishes in Kenya, especially the 1997 Likoni clashes, have also been blamed for recent declines in the number of tourists going to that country.

Finally, the most dangerous outcome of improper tourism development is damage to environment. For example, tourism may increase consumption of resources and, in developing countries where resources are limited, equity issues can arise between provision for locals and tourists. Tourism also takes up space, destroys natural land by creating new infrastructure and buildings and upsets natural ecosystems (Rahemtulla, 1998). Furthermore, it increases waste and litter production and often leads to higher local prices.

Therefore, while tourism gains are attractive, they may be short-term and they should be measured against long term socioeconomic disadvantages such as overcrowding, competition for resources and environmental problems.[5] This calls for planning tourism in a sustainable manner.

---

[3] Kidane (1975) points out that even Israel, which probably has the lowest level of import contents of any tourist destination, loses 25% of its tourist revenue through imports.

Sustainable tourism management requires careful planning and co-ordination because it involves many actors who may not share the same goals. According to Cater and Goodall, (1997), sustainable tourism development should aim at:

a) meeting the needs of the host population in terms of improved standard of living in the short and long term;
b) satisfying the demands of increasing tourist numbers and continuing to attract them to achieve this; and
c) ensuring that satisfying the two goals above does not adversely affect the ability of the environment to provide the same benefits to future generations.

In East Africa, development of tourism is closely linked to the development and sustainability of game parks and other protected areas as wildlife viewing contributes a great proportion to the tourism industry in the region. Without keeping sustainability of these sites in mind, tourism development can negatively affect the natural resource base of the destination (Buttler 1990). For example, such depletion may occur when the destination areas are overcrowded or when natural habitats are so developed that more development leads to extinction of some species (Rahemtulla, 1998).

---

4 The same applies if an event that may physically affect the tourists takes place. When terrorists bombed the American embassies in Kenya and Tanzania in 1998, sharp falls in the number of tourists in the following months were observed.

5 For a more extensive discussion on environmental consequences of tourism, refer to Mathieson and Wall (1982), Pearce (1989; 1983) and Andereck (1995).

1.3 Statement of the Problem and Objectives of the Study

Although tourism is very important to Tanzania, key indicators show that, with the exception of a few recent years, the sector has not historically performed as well in Tanzania as it has in the neighbouring Kenya. Since Tanzania has, arguably, superior national parks—they are more pristine and possess more unique wildlife features—the above situation calls for a re-examination of factors affecting Tanzania's share of the tourism market relative to other competing countries (notably Kenya).

The objective of this study, therefore, is to answer the question whether sustainable well-being of the people in Tanzania and Kenya can be achieved through tourism. To answer this question, the study attempts to:

(1) estimate and analyze tourism expenditure share allocations of foreign tourists among three African destinations: Tanzania, Kenya and South Africa;

(2) examine the factors influencing individual tourists' choices of visiting game parks in Tanzania and Kenya using data from direct surveys;

(3) examine past and current policies in Tanzania and Kenya and determine if they can lead to sustainable development of the tourism sector; and

(4) compare Tanzania and Kenya's levels of tourism performance based on the findings from (1), (2), and (3) above.

Through an analysis of the influence of socioeconomic and policy variables on tourist visits to Tanzania and Kenya, this study will present some policy options that could be beneficial to Tanzania and East Africa as a region. It is also hoped that such findings will be helpful in guiding the region's policy on tourism in the face of the great competition from South Africa, which is included in the estimation to give a glimpse of the magnitude of this competition. As for Tanzania, the findings may be even more important as they facilitate a comparison between it and the historically more successful Kenya and an analysis of some policy implications for its tourism development.

The objectives outlined above are realized by applying three approaches. The first, which estimates the tourism expenditure share allocations, is the use of the Almost Ideal Demand System (AIDS) model. The AIDS model has the advantage of possessing an explicit basis in consumer expenditure theory. It provides new information on changes in the levels of tourism demand related to changes in the budget shares of tourism expenditure attributed to destinations.

The second approach is the use of a survey instrument for destination (country) choice that utilizes a choice experiment analyzed using the Stated Preference Methodology (SPM). The SPM is an approach that solicits current information about the factors that influence tourists' choices of a country as a tourist destination and information on demographic characteristics. It has the relative advantage over other non-market models of being able to decompose a composite good into its constituent attributes; thus, it can be used to analyze the responses of individuals to attribute ranges not presently available (Adamowicz et al., 1994). Finally, it minimizes measurement and econometric problems more effectively than other non-market models.

The third approach is the use of published sources available in Tanzania and Kenya and interviews to analyze the way policies have contributed to achieving—or limiting the achievement of—the twin goals of promoting tourism and enhancing park sustainability.

1.4 Thesis Organization

This thesis proceeds as follows. Chapter Two presents background information on the two study areas, Tanzania and Kenya, highlighting the need for this research. Chapter Three begins with a literature review on tourism demand, with an emphasis on macroeconomic (and market-based) demand studies. The theoretical framework that leads to the formulation of the AIDS model is also presented. Finally, the chapter derives the AIDS model and discusses some of the hypotheses to be tested in the study. Chapter Four presents data collection, their management, and the results of the AIDS model. In Chapter Five, the study reviews a literature on microeconometric (and non-market) demand models of tourism, focusing on the stated choice (Stated Preference) model. The chapter also presents a derivation of the Multinomial Logit Model and the Likelihood Ratio (LR) test that tests whether or not respondents' tastes are similar across markets. In Chapter Six, the study presents the multinomial logit model's data management techniques and results of the model. Chapter Seven discusses the concept of sustainable development, linking it to wildlife conservation in sub-Saharan Africa and and to sustainable tourism development. It also presents an historical and qualitative analysis of the policies pursued by Kenya and Tanzania, showing how they may have contributed to the current states of tourism and whether they can be reliable in fostering sustainable tourism. Finally, Chapter Eight concludes the study, putting forward the implications of its findings and its limitations, and outlining future research possibilities in the area.

CHAPTER 2: THE REGION'S SETTING: THE ECONOMY, THE ENVIRONMENT AND TOURISM

2.0 Introduction

In order to grasp the importance of tourism in Tanzania and Kenya, this chapter presents a background setting of the region, highlighting its environmental, economic, historical, and political aspects. While sections 2.1 and 2.2 respectively present Tanzania and Kenya's profiles, section 2.3 discusses tourism and conservation policies in the region from the colonial period to the present. Section 2.4 concludes the chapter.

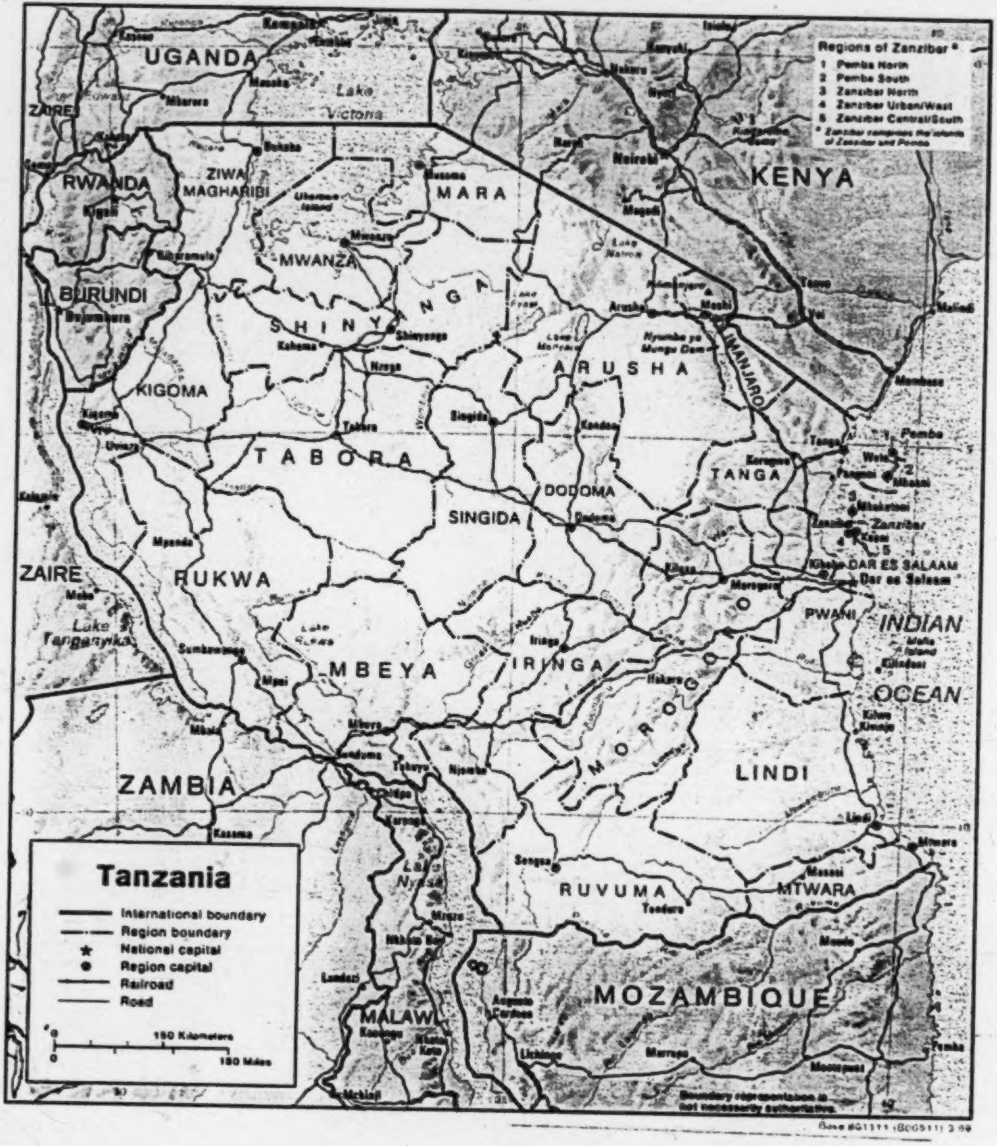
2.1 Tanzania's Profile

2.1.1 Physical Background of Tanzania

Tanzania is a vast country with a total land area of approximately 945,000 square kilometres. It is bordered on the south by Mozambique, Malawi, and Zambia; on the west by Zaire, Burundi, and Rwanda; on the north by Uganda and Kenya; and on the east by the Indian Ocean.

The largest of the three East African nations, Tanzania lies between 1 and 11 degrees South of Equator and between 30 and 39 degrees East of Greenwich. It possesses 16 major geographical zones, 40 sub-zones, and 11 climatic conditions. From the coast on the east, the coastal plains rise to the eastern plateaus that are followed by the eastern Rift Valley. Continuing to the west are the central plateaus, southern highlands and finally the western Rift Valley near the shores of Lake Tanganyika in the west. In the

Fig. 2.1: Map of Tanzania


UGANDA
KENYA
RWANDA
BURUNDI
ZAIRE
ZAMBIA
MALAWI
MOZAMBIQUE
Lake Victoria
Lake Tanganyika
Lake Nyasa
INDIAN OCEAN
ZIWA MAGHARIBI
MARA
MWANZA
SHINYANGA
ARUSHA
KILIMANJARO
KIGOMA
TABORA
TANGA
DODOMA
SINGIDA
RUKWA
DAR ES SALAAM
PWANI
MBEYA
IRINGA
MOROGORO
LINDI
RUVUMA
MTWARA
Nairobi
Dodoma
Dar es Salaam
Zanzibar
Regions of Zanzibar *
1 Pemba North
2 Pemba South
3 Zanzibar North
4 Zanzibar Urban/West
5 Zanzibar Central/South
* Zanzibar comprises the islands of Zanzibar and Pemba
Tanzania
International boundary
Region boundary
National capital
Region capital
Railroad
Road
150 Kilometers
150 Miles
Boundary representation is not necessarily authoritative.

Source: Adopted from Crompton Encyclopedia, 1996 northeast Tanzania lies a mountainous region that includes Mt. Meru (14,979 ft) and Mount Kilimanjaro (19,340 ft), the latter of which is the highest point in Africa.

To the west of these peaks is Serengeti National Park, which has the greatest concentration of migratory game animals in the world (200,000 zebra, for example). Within the Serengeti is Olduvai Gorge, the site of the famous discoveries by the Leakeys of fossil fragments of the very earliest ancestors of *Homo sapiens*. Close to the Serengeti is Ngorongoro, a 20-mile-wide volcanic crater that is home to a large concentration and diversity of wildlife.

Moving west from the Serengeti, one reaches the shores of Lake Victoria, the largest lake on the continent and one of the primary headwater reservoirs of the Nile. Southwest of Lake Victoria, and forming Tanzania's border with Zaire, is Lake Tanganyika, the longest and (after Lake Baikal) deepest freshwater lake in the world.[6] North of Lake Tanganyika is Gombe National Park, the site of Dr. Jane Goodall's much research work on chimpanzees.

Southeast of Lake Tanganyika is a mountainous region that includes Lake Malawi (previously Lake Nyasa), the third largest lake on the continent. East of Lake Malawi is the enormous expanse of the Selous Game Reserve, the largest in Africa comprising over 21,000 sq. mi. (55,000 sq. km.) and containing perhaps more than 50,000 elephants. Moving northeast from Selous brings one to Tanzania's low, lush coastal strip, the location of its largest city, Dar es Salaam. Dar es Salaam is the embarkation point for Zanzibar, the isle that lies off the Tanzanian coast and that is famous for its marine parks.

---

[6] Interested readers and historians may note that it was at Ujiji, a village on the Tanzanian shore of Lake Tanganyika, that H.M. Stanley presumably encountered David Livingstone in 1871.

The climate of Tanzania varies considerably, which is not surprising considering that its environment includes both the highest and the lowest points on the continent. While the narrow lowland coastal region is consistently hot and humid, the central regions of Tanzania are sufficiently elevated, offering much cooler temperatures. The rainy seasons extend from November to early January and from March to May.

2.1.2 History & People

The history of human habitation in Tanzania goes back almost two million years, and the fossils found at Olduvai Gorge by Louis and Mary Leakey now stand among the most important artifacts of the origins of our species. Artifacts of later Paleolithic cultures have also been found in Tanzania. There is evidence that communities along the Tanzanian coast were engaging in overseas trade by the beginning of the first millennium AD. By 900 AD, those communities had attracted immigrants from India as well as from southwest Asia, and direct trade extended as far as China.

When the Portuguese arrived at the end of the 15th century, they found a major trade center at Kilwa Kisiwani, which they promptly subjugated and then sacked. The Portuguese were expelled from the region in 1698, after Kilwa enlisted the help of Omani Arabs. The Omani dynasty of the Bu Said replaced the region's Yarubi leaders in 1741, and they proceeded to further develop trade. It was during this time that Zanzibar gained its legendary status as a center for the ivory and slave trade, becoming in 1841 the capital city of the sultan of Oman.

In Tanzania's interior, at about the same time, the cattle-grazing Maasai migrated south from Kenya into central Tanzania. Soon afterwards the great age of European exploration of the African continent began, and following the 1884 Berlin Conference, Tanzania became a German colony until 1918 when it was handed over to Britain as a mandate territory[7]. Present day Tanzania is the result of a merger in 1964 between the mainland (previously Tanganyika) and Zanzibar, after both gained independence.[8]

Tanzania is truly multi-tribal, with no single ethnic group exceeding 13 percent of the population and none politically dominant. This situation, together with a single lingua franca (Swahili), has contributed to the country's relative peace in a continent where intra-national and international conflicts abound.

In 1967, Tanzania adopted the Arusha Declaration, the country's brand of African socialism. However, economic hardships engendered by this policy led the country—at the behest of the World Bank and the International Monetary Fund—to replace it with a market economy in 1986. As we shall see, the adoption of socialism and its subsequent replacement with capitalism have had major impacts on major sectors of the economy, including tourism.

2.1.3 The Economy

When Tanzania became independent, it was among the poorest countries in the world; today, with a per capital GDP of about US$210, little has changed. The situation became worse from the mid-1970s to the late 1980s when Tanzania went through a severe economic crisis. The crisis was externally prompted by the 1973 OPEC oil price hike and exacerbated by deterioration of Tanzania's terms of trade from 1977, the war with Uganda in 1978, and the second oil price hike in 1979. Domestic conditions were no better. Compounding the first oil price hike, a nationwide drought hit Tanzania in

---

[7] As we shall see, this is an important development as it marks the initial point of Kenya's superior position in tourism and conservation development over Tanzania.

1973-74. In addition, the protective, inward looking import substitution policies discouraged export expansion and stifled competition. The crisis adversely affected the economy and was manifested in huge government and balance of payments deficits, high inflation rates, a huge external debt, stagnant and sometimes negative per capita GDP growth rates, and a general lack of basic consumer goods (Mbelle, 1994).

Attempts to solve the crisis led to Tanzania's government signing an agreement with the World Bank (WB) and the International Monetary Fund (IMF) in 1986. The government pledged to liberalize the economy in exchange for financial assistance from WB and IMF to implement the liberalization and structural adjustment (LSA) policies. After the economic crisis of the late 1970's and the 1980's, the economy has been slowly experiencing signs of recovery, largely due to the LSA policies. Domestic inflation that had averaged 25% between 1986 and 1994 fell to 11% by June 1998 and later to single digit levels in 1999. The GDP growth rate has now risen to 4.9 percent, up from -1.1 percent in 1981. The current account deficit is about 23% of the GDP. The external debt is, however, still huge, estimated at 8 billion US$ in June 2000. As for the exchange rate, it has risen by more than 2,600 percent, from 32.7 Tanzanian shillings per one US$ in June 1986 to 890 Tanzanian shillings per one US$ in September 2001. A developed tourism sector with the capacity to generate a great deal of foreign exchange would go a long way to complement the government's efforts to reduce poverty and eliminate fiscal and balance of payments deficits.

Over 80% of Tanzanians engage in agriculture, which accounted for about 46% of 1990 real GDP (Mbelle, 1994) but only 34% of real GDP in 1999 (Ministry of Finance,

---

8 Tanganyika gained its independence from Britain in 1961 without bloodshed. Zanzibar, on the other hand, became independent through a popular and bloody revolution that unseated the ruling Sultan from

2000). This dismal performance of agriculture (compared to the percentage of people involved in it) in Tanzania is a threat to the environment as peasants fail to observe sustainable agricultural practices (World Bank, 1991). An expanding tourism sector would ease the pressure off agriculture by absorbing labour from agriculture, leading to both its higher productivity and sustainability.

Livestock rearing is another important activity in the economy, accounting for 10 percent of the country's GDP in 1990. Tanzania has a ruminant population of 13 million cattle and 10 million sheep and goats, a total that is ranked the fourth largest in Africa (World Bank, 1991). Increases in animal stocks, especially of the migrant nature, have a potential to damage ecosystems due to overgrazing. Nomadic pastoralists with large numbers of animals are also tempted to invade protected areas, marginalizing wildlife. A well-developed tourism sector, which takes into consideration the needs of the local people around the protected areas, will encourage pastoralists to keep sustainable herds of animals, in turn sustaining these protected areas.

Other industries include manufacturing, mining, and services such as trade, banking, transportation, insurance, and tourism. Of all these, tourism is the fastest growing and is poised to bypass agriculture.

2.1.4 Tanzania's Major Tourist Attractions

Tanzania has many wild animals, most of which are in protected areas, and an immense potential for marine life conservation and cultural/historical attractions. The land area protected by national parks, reserves and "no shooting areas" constitutes about

---

Oman in 1964.

25% of the total land area (Lyogello, 1991). While this percentage is very high (compared to a world average of 4.0%), the government has plans at advanced stages to increase the number of protected areas. Currently, there are 13 national parks, 22 game reserves, one conservation area and over 35 game controlled areas and a marine park. The total land area under conservation is 239,065 sq. km or 26% of the total area of Tanzania. According to Lyogelo (1991), the following are the major tourist attractions in Tanzania.

2.1.4.1 Lake Manyara National Park

Wildlife viewers and hunters have visited this 125 square miles (325 square km) park since safari travel began. Along its western border lie the cliffs of the Great Rift Valley escarpment, and its eastern border runs along the shores of Lake Manyara. Within this long and narrow corridor are dense concentrations of wildlife inhabiting a lovely and diverse landscape, which ranges from forest of tamarind, mahogany, and fig in the north to the wide open grasslands of the park center. Elephant, giraffe, lion, buffalo, and zebra are all to be found here, in addition to many other big game and bird species.

2.1.4.2 Gombe Stream National Park

This park is located in the north-western part of the country, just 16 kms north of Kigoma. It is Tanzania's smallest park, covering an area of 52 sq kms, but one of the most popular, famous for its chimpanzees, being one of the few remaining places where they can be found in their natural habitat. Due to the park's being heavily forested, large game animals are not found in this area, but the park is home to a number of different species of monkey including the red colobus, the red-tail and the blue monkey, the grey duiker, the bushbuck and the bushpig. There are also numerous species of birds including trumpter hornbills, Roos's turacos, crowed eagles, secretary birds, narrow tailed starlings, to mention a few. The park can only be accessed by boat, and a daily entry fee is charged.

2.1.4.3 Mikumi National Park

Mikumi National Park is located approximately 300 km west of Dar es Salaam and is a popular destination for weekend visitors. Covering an area of 3,200 sq. kms, the park lies within a flood plain bordered by the Uluguru Mountain range to the east and the Rubeho Mountains on the west.

Wildlife is abundant, with giraffe, zebra, buffalo, hartebeest and wildebeest being amongst the most commonly sighted game, but elephants, wild dogs and tree climbing lions are also found, along with smaller mammals and reptiles. The park is also home to over 300 different species of birds. Access to the park is easy, with good roads from Dar es Salaam and an airstrip near the park headquarters.

2.1.4.4 Mt Kilimanjaro National Park

Kilimanjaro is the highest mountain in Africa, reaching a height of 5,895 meters. It is a dormant volcano, with the diameter at its base of over 60 kilometres. There are two main snow capped peaks, Kibo and Mawenzi. Although it can be climbed year round, the best times of the year for climbing are between August and October and January and March. From mid March to May is the wet season.

There are six different routes up the mountain, ranging in degree of difficulty, and there are many tour operators running organized trips. The Park has been a game reserve since 1921 but was designated a National Park in 1973 and officially opened in 1977. The rainforest is home to many species of animals and birds including leopards, rhinos, elephants and buffaloes.

2.1.4.5 Muhale Mountains National Park

Located in the west of the country, Muhale Mountains National Park is a remote park that can only be reached by plane or boat. There are no roads, and game viewing is safely carried out on foot. This is the other of Tanzania's parks where chimpanzees can still be found in their natural habitat, along with elephants, buffaloes, antelopes, giraffes, leopards and lions. The best time of the year to visit is between May and October.

2.1.4.6 Ngorongoro Crater Conservation Area

The Conservation area is a fine blend of landscapes, people and wildlife and is Africa's main archaeological site, lying in the north of country and merging into the Serengeti Game Reserve. The Ngorongoro Crater is regarded as a natural wonder of the world (the 8th) and has been declared a World Heritage Site. It is the largest intact crater in the world, being 610 meters deep, 16 kms across and covering an area of 540 sq kms. The area teams with wildlife, with virtually all the big game species found here, including zebras, wildebeest, black rhinos, antelopes, elephants, giraffes, buffaloes, lions, cheetahs and leopards. The area is also a habitat for thousands of flamingos and hundreds of other bird species.

2.1.4.7 Ruaha National Park

Situated in the centre of the country, the Ruaha National Park is Tanzania's second largest park covering an area of over 13,000 sq kms and the world's largest elephant sanctuary. Although set in spectacular scenery, with an abundance of wildlife, the park is one of the lesser visited in the country due to poor accessibility, keeping it an isolated, peaceful and unspoiled wilderness.

Amongst the game found are elephants, buffaloes, giraffes, cheetahs, lions, leopards, a wide variety of antelopes including the "Greater" and "Lesser" Kudu and the Roan and Sable antelopes. There are over 465 recorded species of birds in the area.

2.1.4.8 Selous Game Reserve

The Selous Game Reserve, located approximately 8 hours drive south of Dar-es-Salaam, is the largest reserve in Africa and one of the largest protected wildlife areas in the world. It is home to some of the biggest quantities and variety of animals and birds in Africa. It has the world's largest number of big game, including more than 120,000 elephants, 160,000 buffaloes and about 2,000 rhinos. In addition, the Selous contains Africa's greatest concentration of hippopotami, crocodiles and wild dogs.

The Selous is a rare combination of woodlands, marshes, savannah, and open grass plains, traversed by many rivers, one being the Rufiji River. The park can be reached by road, rail or air, and has several airstrips located at various camps. A flight from Dar-es-Salaam takes approximately 45 minutes.

2.1.4.9 Serengeti National Park

Tanzania's oldest park, located in the North, covering an area of over 14,760 sq, the Serengeti is the country's most popular and famous park. "Serengeti" is a Maasai word meaning "endless plain," which is very apt as the park consists of flat, treeless plains stretching as far as the eye can see. It is one of the highest concentration game sites in Africa. Virtually every game species in Africa can be found, but it is most famous for its vast herds of wildebeest, zebras and antelopes, as well as "the Serengeti Lions."

2.1.4.10 Tarangire National Park

Located approximately 110 kms southwest of Arusha, Tarangire covers an area of approximately 2,600 sq kms. During the dry season from June to October, this park has a particularly high concentration of wildlife, mainly congregating along the Tarangire River.

The park is also an ornithologists' paradise with more than 300 species of birds, including the largest bird in the world, the ostrich, and the heaviest bird that can fly, the Kori Bustard.

2.1.4.11 Lake Tanganyika

The first Europeans to explore Lake Tanganyika were the British Richard Francis Burton and John Hanning Speke in 1887. Beginning on the eastern coast, they crossed Tanzania in search of the source of the Nile, finally coming upon the shores of this seemingly endless and bottomless body of water after months of great deprivation. Though this was not the mythic headwater of the great Nile (which is actually Lake

Victoria, to the north), the sheer size of this lake, the world's longest at 446 mi. (714 km), makes it a geographical attraction in itself.

2.1.4.12 Zanzibar

The island of Zanzibar was once the eastern gateway to Africa. It lies twenty-two miles off the Tanzanian coast and its cloistered Arabic alleyways are indicative of the strong Arabic influence on its culture.

The island has long been a meeting place of the world. Once the centre of the slave and ivory trade, Zanzibar welcomed into its harbour ships loaded with goods from India and the Far East as well as Europe and America. An Indian bazaar still operates on the island today, as well as the world's largest clove market.

The Omani Arabs who once ruled the island left behind white-washed architectural delights that are in great condition. Among them are the Sultan's Palace, the Arab fort, and the Beit el Ajaib (House of Wonders), which is Zanzibar's tallest building. The island also prides itself on its marine park, the only of its kind in the country.

2.1.4.13 Dar Es Salaam

Little more than a century old, Dar es Salaam (which is an Arabic name translating to 'Haven of Peace') is a relatively modern city, its main attractive features being its deep, natural harbor and sandy beaches. Another attraction of the city is its National Museum. Some of Dr. Leakey's first finds can be found in it, including "Nut-cracker Man" and *Zinjanthropus Bosei*, proto-humans who roamed the Rift Valley over a million years ago. There are also detailed displays that track humanity's evolution over the eons.

In addition to the above attractions, Tanzania also offers interesting culture and crafts, notably the Maasai culture and the Makonde sculptures. Tanzanians are known for their friendly gestures and long traditions of generous hospitality, a wealthy folklore, and a tranquility that is unique in African politics and history.

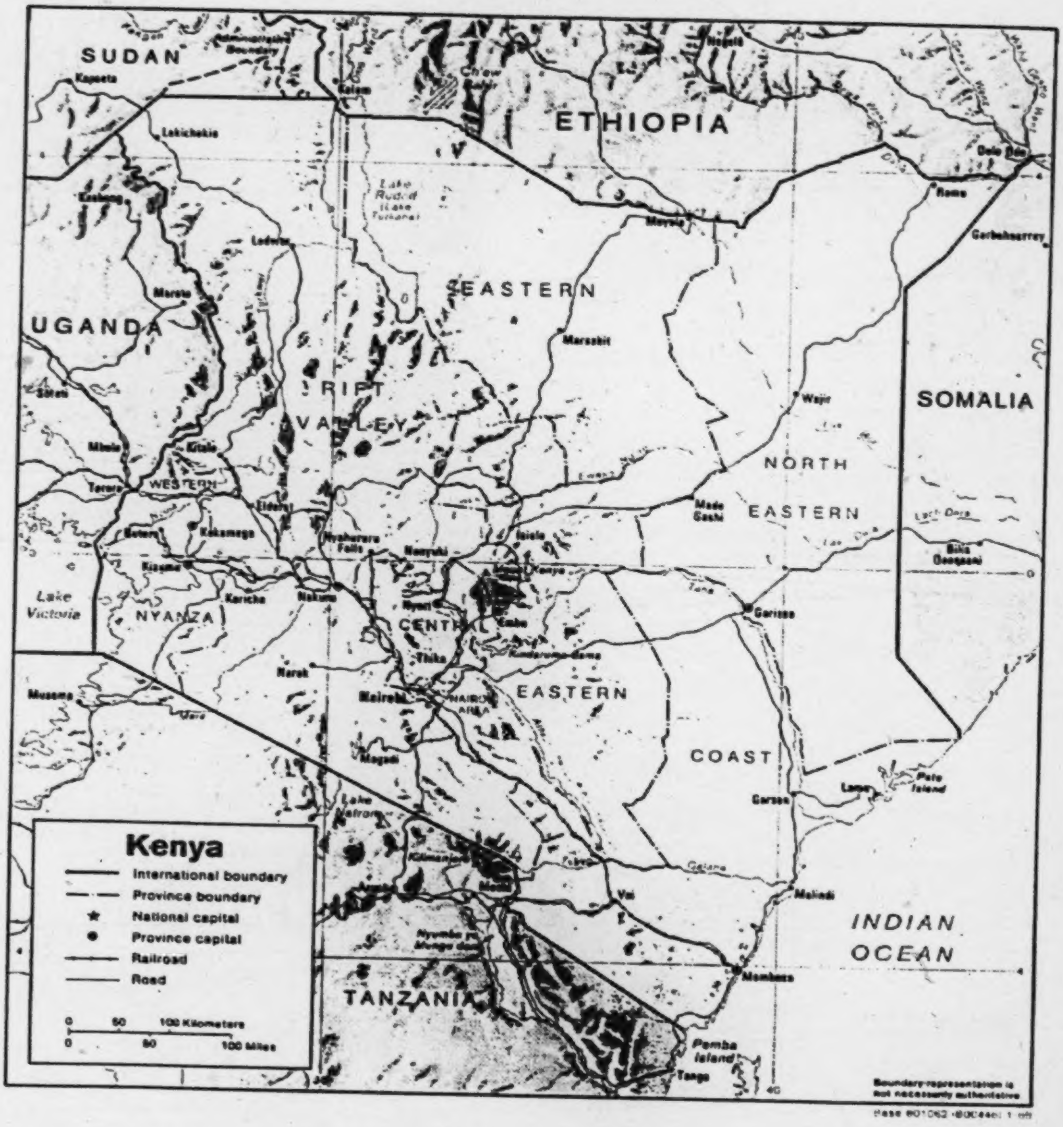
2.2 Kenya's Profile

2.2.1 Physical Background

Kenya is located approximately between 4° N and 4° S and between 34° E and 41° E, with a total area of 582,644 sq. km. It is bordered by Somalia and the Indian Ocean to the east; Ethiopia to the north; Sudan to the northwest; Uganda to the west and Tanzania to the south. Its altitude ranges from the sea level to 5,199m at the top of Mt Kenya. The height of the highlands has been greatly influenced by tertiary lava outflows, forming a plateau of 2,500 – 3,000m, with isolated extinct volcanic mountains such as Mt. Kenya and Mt. Elgon (Morgan, 1988).

The great Rift Valley bisects the country from north to south and is dotted with inland lakes from south to north including L. Magadi, L. Naivasha, L. Elmentaita, L. Nakuru, L. Baringo, L. Bogoria and L. Turkana.

Fig. 2.2: Map of Kenya


SUDAN
Kapoeta
Lokichokio
ETHIOPIA
Chew Bahir
Moyale
Dolo Bay
Ramu
Garbahaarey
Lake Rudolf (Lake Turkana)
Lodwar
Moroto
EASTERN
Marsabit
UGANDA
RIFT VALLEY
SOMALIA
Wajir
Soroti
Mbale
Kitale
Tororo
WESTERN
Eldoret
NORTH EASTERN
Mado Gashi
Lagh Dera
Bilis Qooqaani
Kakamega
Kisumu
Nyahururu Falls
Nanyuki
Isiolo
Mount Kenya
Lake Victoria
NYANZA
Kericho
Nakuru
Nyeri
CENTRAL
Embu
Tana
Garissa
Thika
Narok
Musoma
Nairobi
NAIROBI AREA
EASTERN
COAST
Magadi
Lake Natron
Garsen
Lamu
Pate Island
Kilimanjaro
Arusha
Moshi
Taveta
Galana
Voi
Malindi
INDIAN OCEAN
Nyumba ya Mungu dam
TANZANIA
Mombasa
Pemba Island
Tanga
Kenya
International boundary
Province boundary
National capital
Province capital
Railroad
Road
0 50 100 Kilometers
0 50 100 Miles
Boundary representation is not necessarily authoritative

Source: Adopted from Crompton Encyclopedia, 1996

Although Kenya lies along the equator, the substantial number of areas above 1,500 metres results in considerable temperature variations. Mt. Kenya supports some small glaciers above the snow line. Temperature is a limiting factor for cultivation 2,750m above sea level and beyond.

In most of the country, rainfall is unreliable and more critical for cultivation than temperature. Rainfall is adequate for agricultural activities in the west of the Rift Valley and L. Victoria region and falls in one rainy season (Morgan, 1988). East of the Rift Valley, rainfall exhibits a bimodal pattern with the long rains falling from March to May and the short rains falling from September to October. Rainfall is greatest at the coast and in the highlands. The other areas below 1,200m are semi-arid and arid. Of the total area, arable land makes up about 4%; pastures 6%; parks and reserves 8%; forests/woodland 6% and the rest, 76%, is semi-arid and arid (CBSG, 1990).

2.2.2 History and Government

As recently as the 1880s, "Kenya" as a country did not exist. After the 1884 Berlin Conference, the British colonized part of East Africa and drew boundaries around the country, naming it Kenya. Prior to the arrival of the British, each of Kenya's peoples had its own form of government, culture, and economy. The British imposed their own administration, and through their economic, religious, and educational activities, they transformed the Africans' way of life.

The colonial administration encouraged British and South African whites to move from their homelands to settle in Kenya. To promote this settlement, they reserved a large area exclusively for whites and made generous offers of land. Eventually this area totaled about 16,000 square miles (41,400 square kilometers) and contained about one half of the country's land suitable for crops. In the highlands, the settlers grew tea and coffee for export, while in the lowlands they raised livestock.

The loss of land to the British brought resentment against the colonial administration, and in 1952 a war of liberation began. A guerrilla group called the Mau Mau, made up of members of several ethnic groups (primarily Kikuyu), led the struggle. The Mau Mau rebellion, as it was then called, took place mainly in the highlands, where the Kikuyu people claimed that much land had been stolen from them. In 1963, independence was won. More than 1 million acres (400,000 hectares) were redistributed to 45,000 common Kenyans, but many large farms were left intact and taken over by powerful Kenyans.

Kenya then adopted a democratic parliamentary form of government. Initially a constitutional monarchy, in 1964 it declared itself a republic within the Commonwealth of Nations (now the Commonwealth). The dominant political party since independence, the Kenya African National Union, became the only legal party in 1982 and remained so until 1991 when multi-party politics was introduced. Throughout the post-independence era, Kenya has followed market economy policies.

2.2.3 Population and the Economy

Kenya has more than 100 different ethnic groups, posing a potential problem of communication. Swahili and English have been selected as national languages, and most people speak at least one of these as well as their own local language.

The people are also divided among many religious groups. African traditional religions are widespread, as is Christianity, which was spread by missionary groups in the 19th and early 20th centuries. Islam is particularly well established along the coast and North East; the Kenyans of Asian origin are predominantly Hindus.

Kenya's artistic heritage is represented by a variety of crafts. Among them are mat weaving on the coast, wood carving by the Kamba people, and beadwork jewelry made by groups such as the Masai and the Samburu. Morgan (1988) writes that among the nation's 24 million people, the most populous groups are the Kikuyu, the Luhya, the Luo, and the Kamba. There are more than one million herders such as the Masai and the Somali living in the semiarid and desert areas. An increasing number of people live in the capital city of Nairobi and in other large cities. In the early 1980s, it was estimated that Kenya's population was increasing at the rate of about 4 percent a year. This growth rate, one of the highest in the world, greatly increases the demand for land, housing, food, jobs, education, medical care, and other services (EIU, 1990). Although this growth rate is falling at the moment, it is still high enough to place a severe strain on the economy in a country whose resources are extremely limited.

Kenya is a developing country with a diverse range of industries playing different roles in the economy and national development. The main economic sectors are agriculture, tourism, mining, power generation and communications. The major constraint on the economy is the rapidly growing population (Carroll, 1988). The major agricultural crops include coffee, tea, maize, wheat, barley, pyrethrum and sisal, as well fruits of many kinds. Coffee and tea are the main cash crop exports. Horticulture is also very important; Kenya is the number four exporter of horticultural products worldwide

(Carroll, 1988). There are several irrigation projects in the semi-arid and arid areas such as the Ahero, Mwea, Hola, Bura and Parkea, although their success is debatable (Ecosystem, 1985). Livestock is an important sector of the economy, especially in the semi-arid and arid areas of the country, such as the north eastern province, where arable farming is not possible. Livestock include cattle, sheep, goats, camels and poultry.

2.2.4 Tourism and Tourist Attractions

Tourism is one of the main foreign exchange earning industries in the country (KWS, 1990a). This industry was the third top earner in 1987 after coffee and tea; by 1989, it had become the leading sector, earning US$420 million (EIU, 1990, KWS, 1990a). This industry is closely linked to the protected areas and wildlife outside protected areas, as well as coastal resort hotels and historical sites such as L. Turkana and Fort Jesus in Mombasa. Other types of tourists include delegates to international conferences, and business and transit visitors. Tourism is influenced by political events and the state of the national and global economy, especially recession. The following are Kenya's most significant tourist attractions, according to Kenya Wildlife Service (KWS, 1990a).

2.2.4.1 Aberdare National Park

The Park is part of the Aberdare Mountain Range, which forms the steep eastern edge of the Rift Valley. It lies approximately 180kms north of Nairobi and has an altitude of 7,000 to 14,000 ft. The scenery in this region is spectacular, as is the range of wildlife. Due to the dense forest vegetation, wildlife must be sought out, but there are many game viewing lodges. Game to be found in the park include elephants, lions, black rhinos, waterbucks, gazelles, giant forest hogs, genet cats, leopards, buffaloes and the rare spiral-horned antelopes known as the bongo.

2.2.4.2 Masai Mara Game Reserve

The Masai Mara is regarded as the favorite and is definitely the most popular game reserve in Kenya, having over 140,000 visitors per year. The reserve lies approximately 270km west of Nairobi and covers an area of approximately 1,510 sq km, bordering on the Serengeti National Park in Tanzania. The landscape is mostly open Savannah grasslands and acacia shrubland. During the months of July to September, one of nature's most dramatic spectacles occurs: the annual migration of over a million wildebeest and zebras, coming from the Serengeti to cross the Mara River into the Reserve. At this time of the year, a large number of lions, crocodiles and vultures, all of which prey on the weak and young migrating animals, can also be spotted. Other game to be found in the Masai Mara year round include elephants, cheetahs, baboons, gazelles, giraffes, jackals, cheetahs, leopards, hyenas, water buffalo, ostriches and a large variety of antelope and birds.

2.2.4.3 Amboseli National Park

This park, although small—at approximately 395 sq. km—is one of Kenya's most popular parks. The view of Mount Kilimanjaro, Africa's highest peak, situated in neighbouring Tanzania, coupled with the variety of game to be found, draws visitors in. The park, which lies approximately 140kms south of Nairobi on the border with

Tanzania, is most famed for its large herds of elephants. A combination of drought, increased tourism and over-grazing has had a negative effect on the western side of the park where the land has become dry, dusty and barren.

2.2.4.4 Lake Nakuru National Park

The park entrance lies 6 km from Nakuru town, and the main attraction is Lake Nakuru, a shallow alkaline soda lake set beneath the high cliffs of the eastern Rift Valley. It is an ornithologist's paradise, offering a spectacular view of up to 2 million flamingos at one time, along with hundreds of other species including birds of prey. An area of 190 sq km around the lake is fenced in as a national park and has been made a sanctuary for Rothschild giraffes and black rhinos.

2.2.4.5 Marsabit National Park

The Marsabit National Reserve lies in northern Kenya in a densely forested mountain park, and is home to two crater lakes. The park was famous for its large elephants before poachers killed most of them. However, elephants with smaller tusks are still in abundance, along with large herds of kudu and many birds of prey.

2.2.4.6 Meru National Park

The park is situated approximately 360km northeast of Nairobi and covers an area of 870 sq kms. It remains one of Kenya's most unspoiled areas. The scenery is varied, from woodlands at 3,000 ft on the slope of Nyambeni Mountain Range to open plains with many rivers. Game includes lions, cheetahs, leopards, elephants, antelopes and buffaloes.

2.2.4.7 Mount Kenya

The National Park lies approximately 176 km northeast of Nairobi and covers an area of approximately 700 sq km, with a landscape consisting mainly of forest and bare rock. Mount Kenya is an extinct volcano straddling the equator and is Africa's second highest peak. The altitude ranges from 11,000 to 17,058ft, with the highest peaks being Batian at 17,058ft and Nelion at 17,022ft.

The park has a wide variation in flora as the altitude changes. The region is home to a variety of wildlife including some unique species such as the black and white colobus, Sykes monkeys, buffaloes and elephants.

2.2.4.8 Nairobi National Park

Nairobi National Park is only 20 minutes drive from Nairobi city centre. The elephant is the only one of the 'big five' not found here, but leopard, lion, buffalo, rhino, giraffe, hippo, crocodile, antelope, wildebeest, eland, zebra and Thompson's gazelle as well as many other species are found in abundance.

At the western end of the park is an animal orphanage dedicated to young animals who are injured or deserted in the wild. Here they are studied and cared for until they can be returned to the reserve.

2.2.4.9 Samburu and Buffalo Springs

The Samburu and Buffalo Springs National Reserves lie northeast of Nairobi halfway to Lake Turkana and cover an area of approximately 300 sq kms. The area is arid and largely semi-desert but has a large concentration of game including some species not found elsewhere such as oryx, gerenuk, reticulated giraffes and grevy's zebras. Other game include ostriches, elephants and leopards.

2.2.4.10 Tsavo East National Park

This is one of Kenya's oldest and largest parks, but huge areas, mainly to the north of the Galana River, are completely closed to the public. The southern accessible area of the park includes the Kanderi Swamp and the Aruba Dam on the Voi River and has large concentrations of game including hippos, giant crocodiles, lions, leopards, waterbucks, kudus, zebras and ostriches. It is also home to the largest herds of elephant in Kenya, which are usually covered in red dust. The park also provides for excellent photography with its spectacular views of the Mudanda Rock and the Yatta Plateau.

2.2.4.11 Tsavo West National Park

The park is located about 230 km from Nairobi and has three rivers flowing through it: the Galana, the Athi and the Tsavo, attracting large concentrations of game. Animals include buffaloes, rhinos, giraffes, zebras, lions, leopards, cheetahs, crocodiles and many varieties of antelopes. In its northwestern corner is Shetani[9] Lava Flow, a massive lava bed created by an eruption in the Chyulu Hills where the raw cone at the centre can still be seen. Rain falling in these hills is purified as it soaks through the porous volcanic ash, running underground for 50 km and resurfacing at the lush Mzimba Springs, which is one of the park's main attractions. This area is haven for crocodiles and hippo and a waterhole for a large variety of other animals.

2.2.4.12 The Coastline

The Kenyan Coastline has a spectacular coral reef running, almost uninterrupted, for almost 480 kilometres. The area is teeming with marine life and has many lagoons and creeks and numerous species of birds. It is one of the most popular tourist destinations in Kenya, with many tourist class hotels offering a full range of activities. The most important city is Mombasa, Kenya's oldest town, with its origins dating back as far as 500 BC and until recent times has been Africa's trading centre with Asia. It has the oldest fort in Africa, Fort Jesus, built by Portugese explorers in the 16th century. The fort is now a national museum and houses well preserved artefacts and relics, some dating back 300 years. From Mombasa, one can easily travel to Lamu Island, another important coastal tourist attraction.

2.3 A History of Tourism and Conservation Policies in Tanzania and Kenya

2.3.1 Pre-Independence Era

Tourism was first developed in Kenya and Tanzania on a regional basis that encompassed all East African colonies (Tanganyika, Kenya and Uganda) under the British rule. In 1898, the earliest legislation concerning wildlife was enacted through the regulations covering the East African Protectorate under British colonial rule (KWS, 1990a). These regulations established game reserves and introduced controls on hunting.

---

9 Translates as "Satan" in English

A Game Department was established in 1907 to manage wildlife and wildlife hunting throughout Kenya and Uganda.[10]

Tanganyika was included in the regional planning after becoming a British protectorate in 1919 following the defeat of Germany in WWI. In 1938, the East African Publicity Association (EAPA) was established and charged with the task of developing tourism in the region (Ouma, 1970). A Board of Trustees was established under Ordinance 9 in 1945 and charged with the task of administering the game parks. In 1947, an inter-territorial conference was held in Nairobi to discuss ways of improving tourism in the region, establishing the East African Tourist Travel Association (EATTA) to perform the promotional tasks.

Although the latter became successful in promoting East Africa as a destination, there was a general feeling among members that EATTA deliberately over-publicized Kenya as a tourist destination instead of publicizing all three destinations. This went on even as, in 1960, the United Nations Mission underscored Tanganyika's greater potential for wildlife and scenery in comparison to Kenya and Uganda. The UN recommended proclamation, development, and maintenance of extensive game reserves and natural parks (Ouma, 1970). This unfortunate imbalance led to the withdrawal of Tanganyika and Uganda from EATTA soon after their independence in 1961 and 1962 respectively.

2.3.2 Tourism Development in Tanzania: From Independence to Present

After independence, Tanzania and Kenya pursued independent policies that were to magnify, rather than reduce, the differences in the performances of their tourism sectors over the years. Political leaders in Tanzania advocated a need for animal conservation as a potential source of foreign currency earnings, after diamond and sisal. However, the tourism sector, through which the foreign currency was to be realized, was not given the attention it deserved. The situation worsened after 1967 when Tanzania abandoned the market economy system inherited from the British to embrace socialism. This ideological change engendered a strong debate at the University of Dar es Salaam and other higher learning institutions in early 1970s in which most participants argued against spending scarce national resources to develop tourism rather than developing other sectors that were deemed more important (Curry, 1975). Most importantly, this debate was focused on the continued dependence on the developed countries (DCs) that the promotion of tourism implied. A number of different elements of this dependence were distinguished, and are briefly summarized here because they finally won the day in the way tourism was carried out in Tanzania in the 1970s and 1980s.

---

[10] Tanganyika was still under German rule

First, the original article in the 'tourism debate' was directed against the view that tourism should be a major industry in Tanzania. It was written at a time when the Northern and Southern circuit hotels were being completed, when a foreign firm had been commissioned to draw up a master plan for the future of tourism, and when the second five-year plan was published, containing considerable additional expenditures on tourism. What this sustained attack on the tourism branch lacked was any discussion of, and comparison with, alternative export branches that did and could provide foreign exchange earnings, a necessary complement to any internal development strategy.

Second, it was claimed that the promotion of tourism 'stimulates' and encourages conspicuous consumption and habits that are not commensurate with the reality in any developing country. The understanding upon which this criticism was based was the need to eradicate unproductive consumption and unproductive classes internally if the level of internal saving was to be raised.

Third, it was argued that for Tanzania to devote resources to the production of international tourism would be to assign resources to the production of what for Tanzania was a luxury product that would not become a wage good in Tanzania in the foreseeable future. Moreover, it was pointed out that this new form of 'international specialization' was based upon the importing of investment goods, material inputs, and skills, using foreign currency that was already insufficient.

Fourth, the construction of an industry dependent on imports, and in which production is associated with foreign-owned services—air flights, tour operation, ground transport—implies an alliance with foreign capital in the production for markets in developed countries. This was so argued even as it can be recalled that, in less obvious form, historically and contemporaneously, the production of raw material exports also constitutes an alliance with international capital, as does much production for the internal market.

Fifth, most participants felt that tourism was a bridge through which negative cultural and social vices, such as prostitution and gambling, could infect Tanzania. This argument has remained valid until now: in most tourist areas, anti-social and socially unacceptable tendencies abound. For example, in Arusha, Bagamoyo and Zanzibar, prostitution, drug abuse, child abuse, child labour and children truancy from schools are some of the vices that have been observed (ERB, 1999).

Although these arguments did not diminish the intention of the government to develop tourism—at least on paper—they did cause a dampening effect. By 1973, the cabinet had expressed doubt concerning the intention of developing tourism as the number one industry in the country. What followed after that was reflective of this doubt. The government, through the Ministry responsible for tourism, continued monopolizing tourism development policy and actions, while promotional and marketing responsibilities were entrusted to tourist agencies, namely the Tanzania Tourist Corporation, the Wildlife Corporation and the State Travel Services. These agencies undertook to promote mass tourism; however, inefficiency and lack of resources warranted their dissolution in the mid-1980s.

As stated elsewhere in this section, although Tanzania lagged in promoting tourism, it was not behind in conservation efforts. Much effort was placed in this area, including the enactment of the Wildlife Conservation Act in 1974 and the Wildlife Policy of 1984. Under these policies, Tanzania not only increased the size of land under conservation reserves and 'no shoot' areas to 25% of its total land mass but also ensured that endangered species were protected from human activities such as poaching and unauthorized hunting (Lyogelo 1991, Mbelle 1994). As stated above, these efforts on the conservation front were not matched with tourism promotion. The border closure with Kenya in 1977 following political skirmishes between the two countries exacerbated the problem as Tanzania lost a major portion of its tourists who traditionally used to enter the country from Kenya.

From 1986, following the new economic policy of liberalization and promotion of private ownership, tourism took on a new improved shape. Having adopted a market economy in place of socialism, Tanzania now saw tourism as an important sector that could help save the nation from its deep economic crisis. The government took positive steps to revive it, giving investment incentives to tour operators and other investors in the sector. Under the plan, some of the benefits given to foreign and local firms were 100-percent capital allowances in computing the gains and profit of an enterprise. Others were reduced import tariffs on project capital, total exemption of sales tax on imported project capital assets, and the right to transfer outside the country 100% of the earned foreign exchange and profits.

To qualify for this consideration, an investor has to have a minimum investment of at least US$ 100,000 for projects 100% owned by Tanzania citizens or a locally registered company whose majority shareholders are Tanzanian. Another alternative was to have at least US$ 300,000 for projects which are 100% owned by non citizens or a company that is incorporated under law of any country other than Tanzania or one with shares that are more than 50% owned by non Tanzanians.

Another major step was the enactment of the National Policy on Tourism in 1991—the first Tourism Policy by independent Tanzania—and the establishment of the Tanzania Tourist Board in 1993 (URT, 1996). The National Policy on Tourism placed an emphasis on ecotourism, also called sustainable tourism, or tourism that takes the environment into consideration, as opposed to conventional mass tourism. Again, the private sector was seen to be a critical player in accomplishing this role.

The new considerations of the policy were the following:

(1) that tourism should make a significant contribution to both the economic and social aspects of life in Tanzania;

(2) that tourism should be developed in such a way as to avoid a drift toward high volumes but low value;

(3) that tourism must be culturally responsible, ecologically friendly, and environmentally sustainable;

(4) that future development of tourism should encourage investment and operations by the private sector, especially individual family units;

(5) that resources should be put into training since appropriate skills are essential if the industry is to deliver a quality product;

(6) that emphasis should be put on non-consumptive tourism; and

(7) that local tourism should be encouraged to offset the seasonal imbalances.

It is on the basis of some of these goals that we assess sustainability of tourism in Tanzania in Chapter 7.

In 1996, the government drew up an Integrated Tourism Master Plan with the focus of improving, developing, and refurbishing existing tourist attractions and facilities to attract more tourists into the country. Although these policy initiatives by the government have started paying off, it is important to see whether these gains can be sustained over a long period of time.

2.3.3 Tourism Development in Kenya: From Independence to Present

Tourism policy in Kenya is widely linked to the development of beach facilities on the South East coastal area around Mombasa and to wildlife conservation. Soon after independence, the Kenyan government gave a big boost to the country's tourism industry by extending and re-equipping the old national parks (Nairobi, Tsavo, Aberdare, Mount Kenya, and Lake Nakuru) and establishing new national parks (Shimba Hills, Marsabit, Ol Donyo Sambu, Lake Rudolf, and Mount Elgon).

In addition, beach development was given serious attention as Kenya focused on making the best use of progress in air transportation that was attracting large numbers of medium income visitors from overseas to Africa. To this end, a 150-kilometre strip of coastline north and south of Mombasa was lined with beach hotels designed for package tours; the area currently generates almost half of all tourism revenues (Olindo, 1997). The country correctly assumed that proper development of its parks and beaches, given the very size of the growing demand for tourism, would enable tourist enterprises to offer quality at a low price and, by applying modern business methods, still make a substantial profit. This meant that several standard wildlife itineraries, from two to six days, would have to be built up, with large enough comfortable lodge accommodations. To these ends, the private sector, local and foreign, was heavily involved. Kenya also embarked on an aggressive advertising campaign abroad, sometimes using some attributes in Tanzania to lure tourists into the country.[11]

Unlike Tanzania, Kenya also adopted most of the recommendation of tourist experts, notably making the main parks accessible throughout the year by all-weather roads and linking by shortcuts some neighbouring parks. Meanwhile, the Game Department remained a government department responsible for controlling hunting and licensing and dealing with problems such as crop damage outside protected areas.

Kenya also tamed some game near Nairobi where business foreigners who did not have much time to go to the parks could view the animals for a fee. A few individuals, mainly Europeans, even kept private ranches where wild animals could be viewed. Given the political will on the side of Kenyan government and this diversification, it is hardly surprising that Kenya moved ahead of Tanzania in tourist numbers and revenues throughout the 1970s and 1980s.

In 1975, the Kenyan government reviewed its wildlife conservation and management policy, the proceedings of which can be found in the government's Sessional Paper No. 3 (of 1975), "Policy on Wildlife Management in Kenya." The new policy states that wildlife habitats are to be managed exclusively with the following objectives:

To preserve in a reasonably "natural" state, for aesthetic, scientific and cultural purposes, examples of the main types of habitat that are found in Kenya;

To provide educational and recreational opportunities to Kenyans

To provide an attraction to tourists and so serve as a major basis for Kenya's economically profitable tourist industry; and

To sustain other activities not in conflict with the above activities

Following these changes, the Kenya National Parks Trustees (an organization independent of direct central government control that was formed to establish national parks and advise county councils in 1945) and the Game Department merged to form the Wildlife Conservation and Management Department (WCMD) as a government department. The performance of WCMD, was, however, not encouraging. In the next 15 years, it presided over a period marked by a degradation of wildlife resources and poor management strategies (KWS, 1990a). For example, elephants and rhino populations decreased by 85% and 97% respectively. By 1987, the Kenyan government reviewed its wildlife policy and formed the Kenya Wildlife Service (KWS), a government corporation

---

[11] A typical advertisement would tell the tourists that if they wanted to visit the famous Serengeti plains or to climb Mount Kilimanjaro, Kenya was the place to choose. Many tourists interviewed by this researcher

with a flexible management structure independent of direct government control and charged with overall wildlife management and conservation (KWS, 1990a; Wildlife Act, 1989).

The goals of the KWS are many, but the principal ones are to conserve the natural environment of Kenya for present and future generations of Kenyans as well as for a world heritage. Other goals include achieving wildlife sustainability, especially for economic development of the nation and protecting people from damage caused by wildlife (KWS, 1990a).

The improvements on the Kenyan side (despite the dismal performance of the WCMD) paid off, especially between the 1960s and the early 1990s. Visitor numbers grew from 36,000 in 1955 to 863,400 in 1991 and tourist income from Ksh89 million to Ksh11.8 billion in the same period.[12] Tourism became Kenya's biggest exchange earner by 1987 and today exceeds the next two commodities, coffee and tea, by a factor of two. In the late 1990s, however, the industry has not been at its best. During this period, mass tourism (for which rapid park degradations and species depletion have been blamed) and ethnic clashes on the coast in 1997 have combined to cause a dramatic downturn in visitors. This raises the question of whether or not the benefits of tourism are sustainable in the long term in Kenya, warranting a discussion on sustainability in Chapter 7.

2.4 Conclusion

This chapter has described the salient physical, economic, political and social features of Tanzania and Kenya, the study areas. Knowledge of these factors is necessary

---

in Tanzania admitted that they had come to Africa believing that Mt. Kilimanjaro was in Kenya.

[12] US$1.00 = Ksh74.00

for the reader to grasp the importance that these countries place on the tourism sector. It also reviewed the tourism policies in the two countries, pointing out that although there seems to be an improvement in the sector, it is impossible to conclude that tourism has been developed in a sustainable manner in the region, thus necessitating further discussion in Chapter 7. The following chapter presents a literature review on macroeconometric tourism demand and the methodology of the AIDS model.

CHAPTER 3: LITERATURE REVIEW, THEORY AND DERIVATION OF THE AIDS MODEL

3.0 Introduction

Like many other modern industries, tourism can trace its ancestry back to the Old Testament.[13] In those days, travel was done either by merchants or by a privileged few: for those down the social scale, there was relatively little opportunity for travel. Even in those instances when opportunities arose for travel—mainly for religious purposes—the absence of communication, the paucity of disposable incomes, and the danger involved, acted as important deterrents.

The advent of Industrial Revolution changed all that. With more disposable income, more reliable means of transport and fewer dangers, more people from the western countries started travelling to other western countries and underdeveloped countries of Africa, Asia and Latin America. Since then, in view of its volume of expenditure and its rate of growth, the importance of tourism is gradually being recognized and, in many countries, particularly the developing ones, it now warrants a Ministry all to itself.

This Chapter reviews literature on macroeconometric tourism demand studies with particular attention to developing countries. Since the main attraction in these countries is the wild nature of their flora and fauna, demand for the habitats of these flora and fauna—the national parks and other reserved areas—and demand for tourism are used interchangeably. The Chapter, which also presents the theory behind the AIDS model, is divided into three sections. Section 3.1 reviews aggregate "market" demand studies on tourism and their relevance for this study, stressing the importance of using the systems demand models over the single equation models and the Almost Ideal Demand Systems (AIDS) model over other systems models. Whilst Section 3.2 presents the neo-classical demand theory that leads to the formulation of the AIDS model, Section 3.3 derives the AIDS model and discusses some of the hypotheses of the study that the model tests.

3.1 Market Demand for Tourism

Demand for tourism in sub-Saharan Africa cannot be fully explained without invoking the concept of value and how this concept has related to demand for what the national parks of that part of the continent could offer and have offered through time. It is important to note that the early national parks in the least developed countries (LDCs) were created for diverse reasons. Some resulted from the whims of influential individuals, others were created as a matter of national identity, while many were created to preserve a single species (Shah, 1995). They were not envisaged to benefit package tourists; at the time 'the environmental crisis' was not an issue. For example, people of the time did not perceive the value of remote wilderness areas as an environmental good that was able to enhance their economic success as we do now. Furthermore, real travel costs were too high for people in the West who might have valued LDCs' national parks to travel to see them. It is fair to say that many LDCs, particularly in Africa, had no concrete policies to protect their wild habitats when they gained political independence.

---

[13] Chapters 26 and 27 of the Bible's book of Ezekiel describe trade and commerce in ancient Tyre. Bible readers may also recall the journey by Queen of Sheba, who visited King Solomon in Jerusalem out of curiosity.

In recent times, the national park policies have shifted from providing protection to single, possibly endangered species, to conserving an entire habitat. At first, the wildlife in a protected area was deemed valuable simply because of its existence (McConnell, 1983). Then the falling travel costs and rising real incomes in 1960s ushered in overseas tourists to the third world national parks, and since then the parks started to acquire their use values (Brown, 1984). As people became aware of the third world parks and expected real travel costs to continue to fall and real incomes to continue to rise, they began to entertain the possibility of visiting them some day. And so the parks began acquiring an increased use value. As the 'environmental agenda' intensified, people started thinking seriously about the future of the natural environment and what they might be bequeathing to their children, and so the national parks' bequest value was perceived more clearly than before (Walsh et al., 1984).

The changing roles of third world national parks are in themselves a problem that requires changes in national policies to accommodate. A failure by some countries to change their national policies to reflect this reality may be a critical factor in explaining different success levels of tourism in different countries.

Traditionally, the value of a national park was given by the sum of existence, use, and bequest values. However, Shah (1995) argues that this value is underestimated, his reason being that "the natural environment is a life support system for the whole planet and the parks are essential connecting pieces in today's fragmented natural environment" (p. 12). Thus, the parks act as key defenses against future encroachments and also launch pads for the regeneration of the natural environment (McNealy and Miller, 1984). They are a 'glue' that holds the environment together. Policies that do not consider these "externalities" may work against the optimal development of the parks.

The LDC national parks have alternative uses such as human settlement, agriculture, grazing, and so on. A meaningful conservation policy assessment ought to take into account the values attributable to these alternatives. This is important because if a national park is deemed to have a lesser value than the value of any of the above alternatives, its preservation is not only uneconomical but also difficult to enforce. For these reasons, and/or because of lack of environmental awareness, many national parks in the LDCs face numerous problems that threaten their sustainability.

With that background, many empirical studies have been done on the analysis of factors affecting international tourism demand.[14] One type of data used in these studies are time series data, which are used to analyze travel flows between countries. While such models enable trends to be analyzed, they have relied almost entirely on single equation estimation for individual countries. Many past studies have generally failed to provide cross-price elasticities and have lacked an explicit foundation in consumer demand theory (Syriopoulos and Sinclair, 1993).

Thus, the system-of-equations models, which have arisen from consumer theory, have had virtually no application to tourism demand. The exceptions are the pioneering studies by White (1982b) and O'Hagan and Harrison (1984), who applied the Almost Ideal Demand System (AIDS) model to US demand for tourism in Europe, and Smeral's (1988) application of the linear expenditure systems (LES) model to tourism demand in Europe. Fujii et al. (1985), Sakai (1988) and Pyo et al. (1991) used the LES model to achieve the different objective of estimating tourism expenditure on categories of goods and services. In an alternative context, Parikh (1988) used the AIDS model to estimate commodity import shares for individual countries and country groups.

If there are few studies that have used the systems approach globally, for developing countries, the number is even smaller; in East Africa it is virtually zero. The early studies on tourism in East Africa were mainly descriptive, largely equating growth of the industry with the increasing numbers of tourists and the amount of money received by governments. Competitiveness was determined by the shares each of the countries under study had in term of these two variables (Kisongo et al 1968; Kidane, 1975). Other manuals were written to provide a partial solution to the problem of inadequate written guidance and reading material on tourism in East Africa (Ouma, 1970). Smith's (1988) study categorizes the studies carried out in the region as:

(1) studies aimed at identifying information and data needs in describing the size and impact of tourism in the economy;

(2) studies on the diversity of the tourism industry, with some policy analyses questioning whether tourism is a single industry or a group of related industries;

(3) studies showing major variation in the tourism phenomenon from place to place and at different geographical scales of analysis; and

(4) those dealing with the uncertainty and the dynamic future of tourism, with prospects for further growth and the threat of new and unexpected problems.

Other studies questioned the social returns on investment and socio-cultural effects of tourism (Curry, 1975; Lafant, 1980; Ritchie, 1980). Most of these studies concluded that tourism is a way of integrating developing countries into the global capitalist economy, a

---

14 Crouch (1994) gives a comprehensive bibliography on the past studies.

not too enviable phenomenon in those countries claiming to build socialism. Other studies carried out were by Chambers (1962), Mitchell (1971) and Henry (1980). Apparent in all these studies is an absence of systems of equation demand models.

The system-of-equations models (SEM) of tourism demand and single equation models do not portray the same thing. Whereas the latter explain the responsiveness of the level of demand to changes in explanatory variables selected on an a priori basis, the former explain the allocation of a consumer's level of expenditure among different types of tourism expenditures subject to utility maximization. Thus, the SEMs provide the elasticities of budget shares to changes in relevant explanatory variables.

Within the system of equations approach, a variety of functional forms may be used to represent tourism consumption preferences, including the Almost Ideal Demand System (AIDS), the linear expenditure system, and the Rotterdam and translog models (Brown and Deaton, 1972; Deaton and Muellbauer, 1980; Blundell, 1988). The AIDS model has some advantages over the other models. First, it provides an arbitrary first-order approximation to any demand system and satisfies the axioms of choice and aggregation. Second, it is consistent with household budget data. Third, it can avoid the necessity for non-linear estimation, is simple to estimate and can easily be used to test the key properties of consumer demand, symmetry, and homogeneity (Deaton and Muellbauer, 1980). Finally, it proves to be a convenient tool in estimating expenditure, own, and cross-price demand elasticities.

The AIDS model provides new information by relating not to changes in the levels of tourism demand but to changes in the budget shares of tourism expenditure attributed to destinations or goods and services. It can be used to estimate tourism expenditure allocation for a range of major tourism origins and destinations, test for symmetry and homogeneity, and provide a range of expenditure and price elasticities which have not previously been available with other models. (Syriopoulos and Sinclair, 1993). Expenditure elasticities are particularly useful in that, unlike elasticities relating to visitor numbers, they provide tourism policy makers with information relating to income generation and foreign currency receipts. For example, tourist arrivals may be increasing but real tourism expenditure diminishing due to higher inflation rates or arrivals of tourists with a lower spending propensity or lower average length of stay at the destination. Thus, low expenditure elasticity values indicate the need for investigation of corrective policy measures.

The AIDS approach in this study estimates demand on the basis of individual countries. Individual country estimation overcomes the potential violation of the separability assumption, and difficulties in interpretation of results, which can result from grouping heterogeneous countries. The model differs from that of O'Hagan and Harrison (1984) by using individual price variables suggested by the initial AIDS formulation and by being consistent with the underlying economic theory (Johnson and Ashworth, 1990) instead of a single price variable. Although O'Hagan and Harrison's (1984) procedure had the advantage of overcoming problems of insufficient degrees of freedom, it also imposed implicit and untested restrictions that have implications for price coefficients. In addition to providing expenditure and uncompensated and compensated own-price elasticities of tourism demand, this study provides new cross-price elasticities of tourism demand for individual destinations, i.e, Tanzania, Kenya, and South Africa.

3.2 Neo-Classical Theory of Demand

Following the usual approach of analyzing consumer behaviour, it is assumed that an individual consumer possesses a preference ordering for alternative bundles of commodities and that this ordering can be represented by an ordinal utility (U) function:

$$U = U(X) \tag{3.1}$$

where X = vector of bundles of commodities.

In order for this preference relationship to represent rational consumer behaviour and facilitate the maximization procedure, it must satisfy six axioms:

a) Reflexivity—each bundle of commodities is at least as good as itself.
b) Completeness—the consumer has the ability to rank all the bundles.
c) Transitivity—there is consistency in the consumer's ranking.
d) Continuity—the utility function is differentiable to the first and second order.
e) Non-satiation—the consumer always prefers bigger bundles of the commodity to smaller bundles.
f) Convexity—ensures a diminishing marginal rate of substitution among bundles of commodities.

Details of demand theory and the basis for these assumptions can be found in any standard economics or consumer theory textbooks, such as those of Varian (1992) and Deaton and Muellbauer (1992). With the above assumptions satisfied, the individual consumer is assumed to face the choice of maximizing his/her utility function (3.1) subject to a budget constraint:

$$MaxU = U(X)$$

$$\text{subject to } M = \sum P_i X_i \qquad (3.2)$$

where M = the individual's income;

P_i = the price of the ith commodity and

X_i = quantity of ith commodity.

Maximizing the associated Lagrangean function by setting the partial derivatives equal to zero and solving these simultaneously solves the problem of constrained utility maximization. The result is the derivation of ordinary or Marshallian demand relationships that express quantities as a function of prices and income or total expenditure:

$$X_i = f(P_1, P_2, \ldots, P_n, M) \qquad (3.3)$$

From these functions, expenditure shares can be derived as:

$$w_i = \frac{P_i X_i}{M} \qquad (3.4)$$

where w_i = expenditure share of the i^{th} commodity.

An alternative approach to the consumer choice problem is one of selecting commodities to minimize the money outlay necessary to reach a predetermined utility level, (U). This is expressed as:

$$Min\ M = \sum P_i X_i$$

$$\text{Subject to } U = U(X) \qquad (3.5)$$

The solution to the problem (3.5) is also obtained by minimizing the Lagrangean function. This leads to a series of Hicksian or compensated demand functions where:

$$X_i = h(P_1, P_2, \dots, P_n, U) \tag{3.6}$$

Utility maximization and cost minimization imply the same choice, as the original or primal and dual problems have the same solution. The solutions in equations 3.3 and 3.6 can be substituted back into their respective problems to derive expressions for the maximum utility (V) and the minimum cost (C) attainable respectively. Substituting equation 3.3 into 3.1 yields:

$$V = V[X_1(P,M), X_2(P,M), \dots, X_n(P,M)] \tag{3.7}$$

where V = maximum utility attainable and

P = the vector of relevant prices.

Substituting equation 3.6 into the choice problem in 3.5 yields:

$$C = [\sum P_i X_i(P,U)] \tag{3.8}$$

where C = minimum cost for attaining U at each price, P.

The indirect utility function (3.7) and the cost function (3.8) can be written respectively as:

$$V = V(P,M) = Max_x[U(X); PX = M] \tag{3.9}$$

$$C = C(P,U) = Min_x[PX; U = U(X)] \tag{3.10}$$

Equations (3.9) and (3.10) are related. A rearrangement or inversion of (3.9) results in

$$M = M(P,V). \tag{3.11}$$

Similarly, inversion of (3.10) results in:

$$U = U(P,C) \tag{3.12}$$

The two functions are simply alternative ways of writing the same information. Using Shephard's Lemma, it can be shown that the partial derivatives of the cost function, (3.10), with respect to prices, are the Hicksian demand functions which express quantities demanded as a function of utility, U, and prices, P.

$$\frac{\partial C(P,U)}{\partial P_i} = h_i(P,U) = X_i \tag{3.13}$$

Equation (3.9) expresses utility in terms of P and M so that substitution of (3.9) into the Hicksian demand function gives quantities in terms of P and M, or the Marshallian demand functions, i.e:

$$X_i = h_i(P,U) = h_i[(P,V(P,M)] = f_i(P,M) \tag{3.14}$$

This relationship can also be established in reverse, starting with the Marshallian demands and using the cost function to express M in terms of U and P, i.e:

$$X_i = f_i(P,M) = f_i[(P,C(P,U)] = h_i(P,U) \tag{3.15}$$

It is also possible to rewrite the partial derivative in equation (3.13) so as to allow for the derivation of the Marshallian demand function from the indirect utility function. Since the cost and indirect utility functions are inverses, (3.9) can be written as:

$$V = V[P, C(P,U)] \qquad (3.16)$$

Differentiating (3.16) with respect to P_i with U held constant and using the chain rule gives:

$$\frac{\partial V}{\partial P_i} + \left(\frac{\partial V}{\partial M} * \frac{\partial C}{\partial P_i}\right) = 0 \qquad \text{where}$$

$$-\frac{\partial V / \partial P_i}{\partial V / \partial M} = \frac{\partial C}{\partial P_i} = X_i = f_i(P, M) \qquad (3.17)$$

Equation (3.17) is commonly known as Roy's identity.

These relationships provide a general characterization of the properties of Hicksian and Marshallian demand functions. These are summarized below:

1) Adding up—The total value of both Hicksian and Marshallian demands is total expenditure.

2) Homogeneity—The Hicksian demands are homogenous of degree zero in prices; the Marshallian demands are homogenous of degree zero in total expenditure and prices.

3) Symmetry—The cross-price derivatives of the Hicksian demands are symmetric for all i≠j.

4) Negativity—The n-by-n matrix formed by the elements $\partial h_i / \partial p_i$ is negative semi-definite.

3.2.1 Separability and Two/Three Stage Budgeting

A comprehensive analysis of consumer demand will include all the commodities in the consumer budget. However, this approach usually faces problems of degrees of freedom due to the large number of parameters to be estimated as compared to the number of observations obtainable. A response to this issue is possible if commodities can be partitioned into groups so that preferences within groups can be described independently of quantities in other groups. Commodities that bear special relationships to one another in consumption as substitutes or complements can be said to constitute one group.

A key concept of consumer theory permitting the application of a system-of-equations approach to the demand for tourism in the countries concerned is that of separability. Separability involves the partitioning of types of consumption expenditure into groups so that preferences within groups can be described independently of quantities demanded in other groups. For the allocation of tourism expenditure among the African countries under study, it is assumed that tourism expenditures on Eastern and Southern African tourism are separable from other types of consumption, as well as from other tourism expenditures. The destination countries have common attributes such as appealing natural habitats and tropical climatic conditions. Their tourist characteristics also differ from those of other countries that specialize in alternative types of tourism, for example, sports-based tourism. Individual countries within the African group may be substitutes or complements, and tourists visiting one African country may extend their trips to include several African destinations at a time.

Within the system-of-equations approach to demand modeling, the assumption is that consumption expenditures are allocated in stages. In practice, a two- or three-stage budgeting process is often selected. The first stage consists of the allocation between broad groups of goods and services. The second stage consists of the allocation among subgroups, and the third stage occurs when expenditures are allocated to individual items. In the case of tourism demand, it is assumed that the consumer first allocates consumption expenditures between total tourism expenditure and consumption of other goods and services. In the second stage, the consumer allocates expenditure between tourism in East and Southern Africa (e.g. Tanzania, Kenya and South Africa) and tourism in other areas such as the Middle East, the Far East, Latin America, and the home country. The consumer, finally, chooses among the different East and Southern African destinations in the third stage.

3.3 Derivation of the AIDS Model

This section derives the AIDS model, which the study uses to estimate demand for tourism in Tanzania, Kenya, and South Africa, with time series annual data. The almost ideal demand system (AIDS) belongs to the family of flexible demand systems, known as the price-independent logarithmic (PIGLOG) class, attributed to Deaton and Muellbauer (1980). This class permits perfect aggregation over consumers. The representation of this class of preferences is obtained by using the cost (expenditure) function, $c(u,p)$, which defines the minimum expenditure necessary to attain a level of utility, u, given prices, p. It can take the following form:

$$\ln c(u,p) = (1-u)\ln\{a(p)\} + u\ln\{b(p)\}$$

The practical application of the PIGLOG class of preferences requires a selection of specific functional forms for the functions of prices *a(p)* and $b(p)$, as linear, homogeneous concave functions of the price vector p. Thus, the following functional forms have been proposed:

$$\ln\{a(p)\} = \alpha_0 + \sum_k \alpha_k \ln p_k + \frac{1}{2}\sum_{i=1}^{n} \sum_{j=1}^{n} r^{*}_{ij} \ln p_i \ln p_j$$

and $$\ln\{b(p)\} = \ln\{a(p)\} + \beta_0 \prod_{i=1}^{n} p_k{}^{\beta_k}$$

The cost function of this class preference is written as:

$$\log c(u,p) = a_0 + \sum_{i=1}^{n} a_i \ln p_i + \frac{1}{2}\sum_{i=1}^{n} \sum_{j=1}^{n} r_{ij} * \ln p_i \ln p_j + u\beta_0 \prod_{i=1}^{n} p_k{}^{\beta_k} \qquad (3.18)$$

where a_i, b_i and r^*_{ij} are parameters.

The *Hicksian* demand functions derived from (3.18) by invoking *Shephard's lemma* have the following budget share form:

$$w_i = \alpha_i + \sum_{j=1}^{n} r_{ij} \ln p_j + \beta_i \mu \beta_0 \Pi_k P_k^{\beta_k} \qquad (3.19)$$

where w_i = the expenditure share on the i^{th} commodity

$r_{ij} = \frac{1}{2}(r_{ij}* + r_{ji}*)$

P_j = the price of commodity j and

α_i, β_i and r_{ij} are parameters.

As a result of the inversion of (3.18) and the substitution for *u* in (3.19), the following Marshallian demand functions in budget shares are derived:

$$w_{i,} = \alpha_i + \sum_j r_{ij} \ln p_j + \beta_i \ln(\frac{X}{P^*}) + e_i \qquad (3.20)$$

where X= the expenditure on all commodities in the system and

P^* is the aggregate price index for the group defined by:

$$\ln P = \alpha_0 + \sum_{i=1}^{n} a_i \ln p_i + \frac{1}{2} \sum_{i=1}^{n} \sum_{j=1}^{n} r_{kj} \ln p_i p_j \qquad (3.21)$$

Given the price index P* defined in (3.21), the demand functions in (3.20) are nonlinear in their parameters. In empirical research, a linear version of the AIDS model has often been used. This is achieved by approximating P* using Stone's price index, P^0, defined as:

$$\ln P^0 = \sum_{i=1}^{n} w_k \ln p_k \qquad (3.22)$$

with *wi* being the observed sample budget shares. The aggregate $P*$ is a geometric mean of the individual prices, so that (3.22) becomes straightforward to estimate; Deaton and Muellbauer (1980) refer to this model as the linear approximate AIDS (LAIDS). The differential form of the AIDS model has the following form:

$$dw_i = \beta_i (d \ln X - d \ln P^0) + \sum_j r_{ij} d \ln P_j \qquad (3.23)$$

where d is the differential operator. If the log differential of Stone's index $(d\ln P^0)$ is approximated by Divisia price index, $d\ln P^0 = \sum_{j=1}^{n} w_j d\ln p_j$, the real income term $(d\ln E - d\ln P^0)$ in (3.23) can be replaced by using the Divisia quantity index, $d\ln Q = \sum_{j=1}^{n} w_j d\ln q_j$, to give the following differential form of AIDS:

$$dw_i = \alpha_i + \beta_i d\ln Q + \sum_{j=1}^{n} r_{ij} d\ln p_j \tag{3.24}$$

The theoretical restrictions that arise from economic theory imply the following restrictions on the parameters of the LAIDS model and the variants described above. Adding-up implies:

$$\sum_{i=1}^{n} \alpha_i = 1, \sum_{j=1}^{n} r_{ij} = 0, \text{ and } \sum_{i=1}^{n} \beta_i = 0 \tag{3.25}$$

The homogeneity and symmetry restrictions imply respectively:

$$\sum_{j=1}^{n} r_{ij} = 0, \text{ and} \tag{3.26}$$

$$r_{ij} = r_{ji}$$

The income elasticity for the LAIDS model is:

$$\eta_i = 1 + \frac{\beta_i}{w_i} \tag{3.27}$$

while the formulae for the compensated cross-price elasticity (η_{ij}) and the Slutsky term (s_{ij}*) are:

$$\eta_{ij} = \frac{r_{ij}}{w_i} + w_j - \delta_{ij} \qquad (3.28)$$

$$s_{ij}{*} = (\frac{p_i p_j}{X})s_{ij} = (r_{ij} + w_j w_i - \delta_{ij} w_i)(\frac{X}{p_i p_j}) \qquad (3.29)$$

where $s_{ij} = \frac{\partial q_i}{\partial p_i} + q_i \frac{\partial q_i}{\partial X}$ is the (i, j)th element of the Slutsky substitution matrix. The estimation of the symmetry-restricted system of equations is undertaken using Zellner's (1962) method for Seemingly Unrelated Regressions (SUR). SUR estimation is superior to the Ordinary Least Squares (OLS) estimation not only when the independent variables are not identical, but also it increases efficiency by minimizing the correlation between the different sets of explanatory variables.

The adding-up condition, implied by consumer demand theory, is automatically imposed and tested. The homogeneity condition is tested by imposing the homogeneity restriction on the unrestricted model and re-estimating the system equation by equation using OLS since homogeneity is a restriction imposed within each share equation and does not imply cross-equation restrictions. The homogeneity-restricted LAIDS model to be tested has the form

$$dw_i = \alpha{*}_i + \beta_i d\ln Q{*} + \sum_{j=1}^{n-1} r_k d\ln(\frac{p_j}{p_n}) \qquad (3.30)$$

F-tests are applied to both the unrestricted and restricted model to test for homogeneity. Symmetry implies cross-equation restrictions and is tested for using a system-of-equations technique.

3.4 Conclusion

The task of this chapter was to present a literature review, a theoretical framework, and a derivation of the AIDS model. It was shown that tourism studies using macroeconometric models are relatively few, especially studies done on Africa. By using the AIDS model to estimate demand in Africa, this study attempts to broaden the scope of the studies on tourism in the continent. It was also shown that the AIDS model was chosen among other macroeconometric models of demand owing to its flexibility and comparatively few econometric problems. This model is used in the following chapter to estimate demand for tourism in Tanzania, Kenya and South Africa, using annual time series data. The chapter also presents data collection and management and results of the model.

CHAPTER 4: DATA, ESTIMATION PROCEDURE AND RESULTS OF THE AIDS MODEL

4.0 Introduction

In this chapter, we present the techniques used in collecting data for the AIDS model, the estimation procedure, and the results. These are presented in, respectively, Sections 4.1, 4.2, and 4.3. In Section 4.4, implications of the estimated are discussed and Section 4.5 concludes the chapter.

4.1 AIDS Data Collection and Management

The value of tourism expenditure allocated to each tourist destination by foreign tourists is estimated by weighting total tourism receipts in each destination by the share of total tourist arrivals. Total tourism expenditure undertaken is then divided by the total number of tourists to provide the per capita expenditure used in estimating the model. Data for tourism expenditure, tourism receipts, and tourist arrivals were obtained directly from relevant National Tourism Organizations and/or National Central Banks. Other sources are the IMF's International Financial Statistics, Balance of Payments Statistics, and the United Nations' Statistical Yearbook.

Tourism demand is affected by both the domestic prices in the destination country and exchange rates (Martin and Witt, 1987; Johnson and Ashworth, 1990). An effective price index, taking account of both, is included in the AIDS model. Although tourism prices are not readily available, researchers have used the consumer price index, which "has been shown to be a good proxy" (Syriopoulos and Sinclair, 1993). This was obtained from the IMF's International Financial Statistics. The consumer price index was adjusted according to the relevant exchange rates (transformed into an index with 1985 as the base year), yielding an index of affective (real) prices for inclusion in the model. While the original AIDS model assumes that budget shares can be explained by prices and aggregate expenditure, and price and expenditure elasticities are the prime focus of interest of the model, other variables may also explain tourism demand. Therefore, a dummy variable for time trend (for changes in tourism patterns) was included in the model. Unlike the single equation approach, which places no constraints on the set of dummy variables to be included in any equation, the adding-up condition of the AIDS model requires that a variable affecting one country's budget share must affect the budget shares of the other countries. This condition, along with complications in the estimation procedure and possible multicollinearity, precludes the inclusion of such variables as unemployment rates in origin countries, which may be included in single equation models of demand.

Transportation costs were also excluded for the following reasons. First, the cost of transportation should, ideally, not only take into account the financial cost of the fare paid by the consumer but also the value which the tourist attributes to the duration of the journey (Gronau, 1970). Second, the appropriate measure of transport cost is the weighted average (package) price of all modes of transport to the destination, by air, by land, and by sea, and meals, accommodation etc. Given the resource constraints, it was not possible to calculate a meaningful transport cost variable for the countries under consideration owing to the complexity of the travel cost structure. Moreover, time-series data for the discounted airfares that characterize tourist transportation to the destinations are rarely available. Of a variety of proxies considered in past empirical work, the economy class airfare of a return (scheduled) trip from the country of origin's capital city to the country of destination's capital city has usually been used. But this is not a satisfactory proxy since a large share of air traffic may not be destined for airports near capital cities but for regional airports, closer to the main tourist resorts. The fares to regional airports may also differ considerably from those to capital cities (Pearce, 1987). Moreover, in some of the cases, a considerable proportion of tourists arrive by air in one country and then travel by car to another country; this is so in the case of the tourists visiting Kenya and Tanzania. The LAIDS model was, therefore, estimated following the general practice of including only prices, aggregate expenditure and time trend as independent variables. The sample period consisted of annual data for 1970-1998.

4.2 Estimation Procedure and Hypotheses

The estimation procedure proceeds as follows: Let et = (e_{t1}, e_{t2}, e_{t3}) be the error vector of the three share equations (for Tanzania, Kenya and South Africa) and let et* = (e_{t1}*, e_{t2}*, e_{t3}*) be the error vector for the three equations of the estimated system. The variance-covariance matrix for the system is then $\Omega = \Omega(\Sigma) = E[ee'] = \Sigma \otimes I_T$, where Σ is the 3X3 symmetric matrix, assumed to be positive definite, whose *ijth* element is σ_{ij}. It is assumed that the error terms are contemporaneously correlated and, to take autocorrelation into account, the error term follows an AR(1) process, i.e., $e_t = \rho e_{t-1} + v$.

As the sum of budget shares equals to one, the contemporaneous matrix will be singular. Thus, one equation—the South African—is deleted for purposes of estimation. However, using the adding-up conditions, the Tanzanian and Kenyan equations are used to recover the parameters for the South African equation. Barten (1969) has shown that given the absence of serial correlation on the error terms, maximum likelihood estimates of the parameters can be obtained by arbitrarily deleting an equation and that these estimates are invariant to which equation is deleted. The two undeleted equations are estimated using the maximum likelihood, assuming normality of the error term. After imposing the homogeneity, the study tests for symmetry by applying a likelihood ratio test to the complete system of equations. The maximum likelihood estimates of the tourism demand system are obtained using the regression procedure in SHAZAM version 8.0.

The AIDS model is used to test the following hypotheses:

a) Elasticities of demand

The model hypothesizes and tests whether:

(i) compensated own price elasticity of demand is negative for each of the destination countries,

(ii) compensated cross price elasticity of demand between two countries is positive if tourism attractions in those countries are Hicksian substitutes and negative if they are Hicksian complements,

(iii) expenditure elasticities of demand are positive for all five destination countries, and

(iv) expenditure elasticities have increased for countries with an improved tourism sector and decreased for those countries with a deteriorated tourism sector.

b) Properties of demand functions:

(i) The adding up property is automatically imposed since the sum of expenditure shares equals unity,

(ii) by imposing the required restrictions, we test the homogeneity and symmetry conditions using the likelihood ratio tests, and

(iii) the negative semi-definiteness of the substitution matrix is tested. For the negativity condition to hold, the Slutsky matrix has to be negative-semidefinite, implying that all Eigen values must be non-positive.

4.3 Estimation Results

4.3.1 Expenditure per Tourist Trends

Table 4.1 presents tourism expenditure per tourist in the three countries from 1970 to 1998 in US$, deflated by an appropriate GDP deflator. Tanzania and Kenya start off at almost the same level of expenditure per tourist, with Tanzania slightly ahead (Tanzania $228, Kenya $224). Within three years, Tanzania's per tourist expenditure had plummeted to US$73, a decline of 64% from the 1970 value. The situation worsened in the following two years before the expenditure picked up towards the end of the 1970s. With the exception of 1983 and 1984, the figure hovered around $200 until 1988 when a dramatic increase raised the figure to the $400 range. Since that year, the increase has been consistent. The 1998 figure of nearly US$1,200 is about 180 percent greater than the 1988 figure. Despite this recent rapid improvement, however, the value of revenue per tourist for Tanzania for the 1970-1998 period was US$ 336, thanks largely to the poor performances of the 1970s and the early 1980s.

Table 4.1: Tourism Expenditure Per Tourist 1970-98 (at 1995 Prices) in US$

YEAR	TANZANIA	KENYA	SOUTH AFRICA
1970	227.56	224.43	259.18
1971	138.86	228.75	241.58
1972	142.86	225.54	309.50
1973	72.99	236.63	549.76
1974	63.64	274.67	605.54
1975	63.44	319.70	535.36
1976	76.27	314.04	706.53
1977	85.72	463.42	755.36
1978	217.18	600.76	773.27
1979	234.47	631.05	803.79
1980	234.89	756.79	806.40
1981	210.54	638.92	823.84
1982	237.22	629.25	846.25
1983	146.56	685.90	899.15
1984	125.88	828.73	770.20
1985	193.50	602.61	586.54
1986	223.38	664.96	601.55
1987	214.89	650.16	834.99
1988	434.78	737.54	836.02
1989	424.84	654.10	762.37
1990	507.12	669.93	1000.00
1991	595.01	641.62	661.58
1992	638.69	728.53	453.54
1993	734.39	527.86	429.01
1994	878.53	511.17	388.12
1995	988.28	570.57	355.37
1996	988.28	573.08	399.48
1997	1090.00	573.08	399.48
1998	1181.96	482.13	415.37
MEAN	335.75	538.32	621.77

Source: Own computation from data on tourist numbers and tourism revenues

In the 1970s, Kenya made a quick improvement in this area, raising its per tourist expenditure to US$ 600 in 1978, an increase of 168 percent from the 1970 figure. This figure remained in the high $600 range on average until 1993 when it dropped to $500 and later to US$ 482 in 1998. This represents a decline of about 35 percent from its value of US$ 737 in 1988 and also compares negatively with the corresponding value for Tanzania as the latter is nearly two and half times the former. This later decline in no way erases Kenya's superior position over the whole period: overall, Kenya's revenue per tourist expenditure was US$ 538, which is more than 60 percent higher than the corresponding value for Tanzania.

From 1970 to 1990, South Africa fared quite well compared to Tanzania and Kenya, recording a high of US$ 1,000 per tourist in 1990. In recent years, this high profile has diminished, falling even below Kenya's values. Although South Africa's overall expenditure per tourist is the highest among the three countries (US$ 622), this recent trend may suggest that both Tanzania and Kenya are becoming more "high value" destinations compared to South Africa as Fig 4.1 indicates. Despite this trend, South Africa accounted for 71 percent of the tourist arrivals during the study period (Fig. 4.2). It was followed by Kenya, which accounted for 21 percent while Tanzania came last, accounting for only eight percent. In terms of tourism revenue, South Africa accounted for 69 percent, Kenya accounted for 23 percent, and Tanzania came last again, accounting for a paltry 8 percent (see Fig. 4.3). South Africa's lead was strengthened by the release of Nelson Mandela from prison and the end to the apartheid regime in the early 1990s, as Fig. 4.4 shows.

Fig. 4.1: The Trend of Revenue/Tourist Expenditure in Tanzania, Kenya and South Africa (1970-1998)

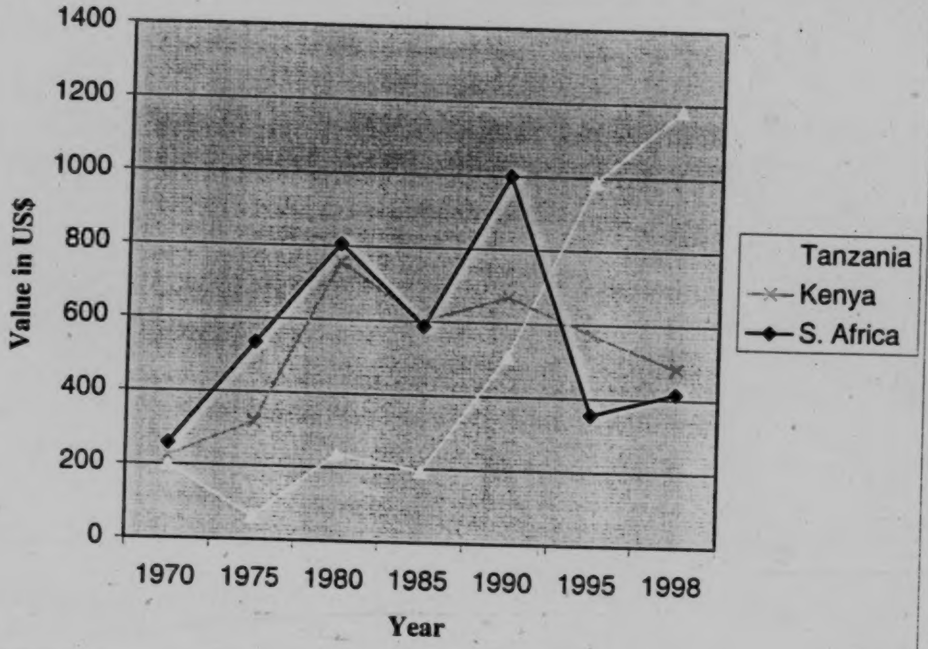


Fig. 4.2: Shares of Tourist Arrivals in Tanzania, Kenya, and South Africa (1970-1998)

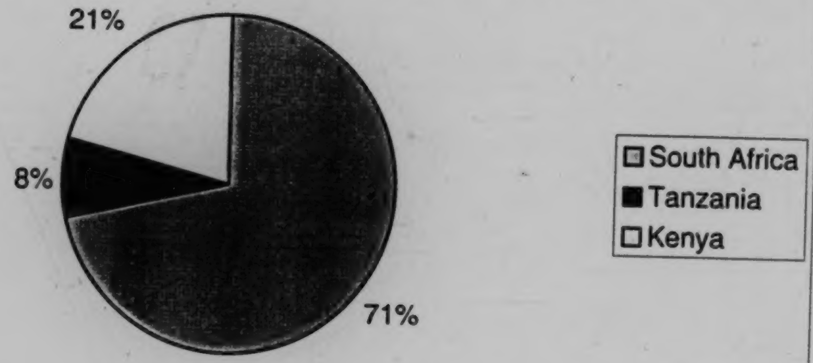


Fig. 4.3: Shares of Tourism Revenue: S. Africa, Tanzania, and Kenya (1970-1998)

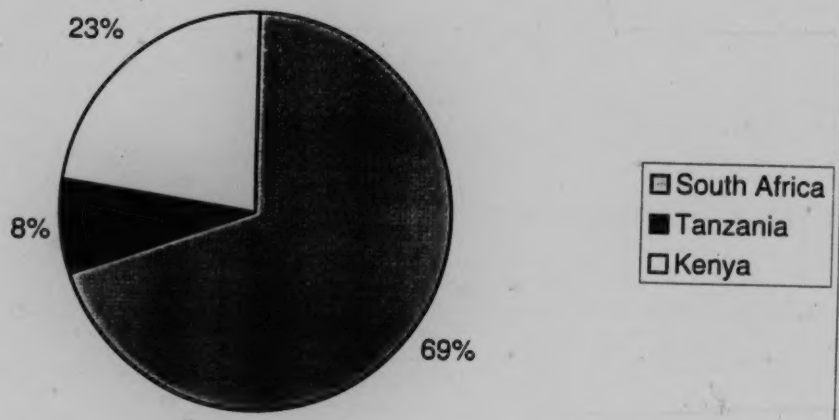
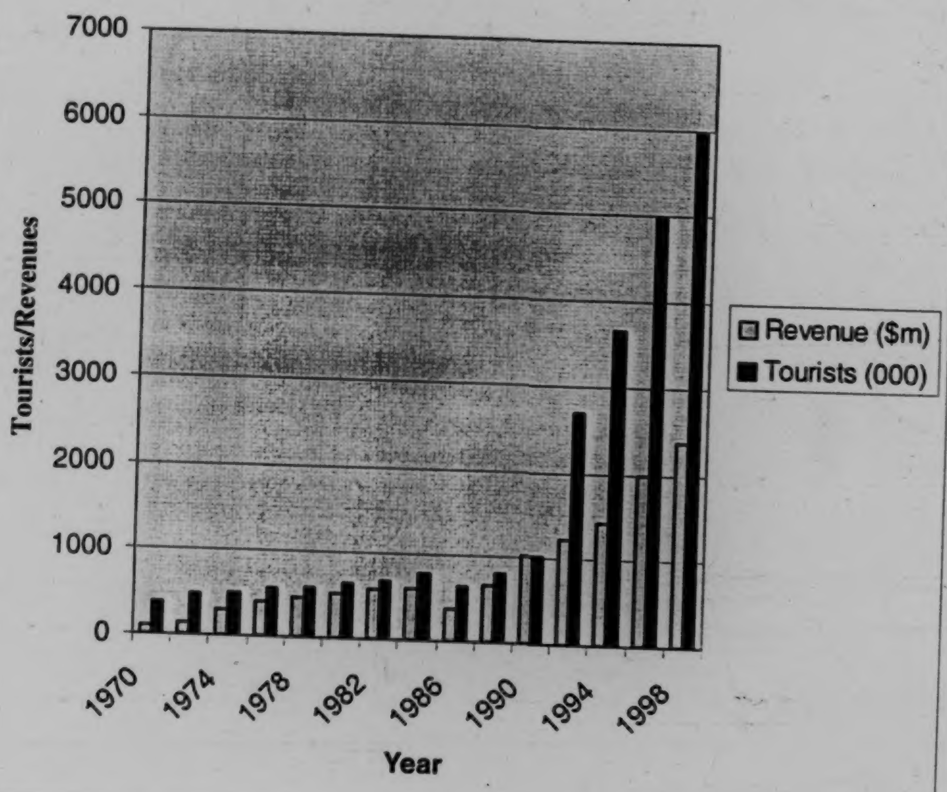


Fig. 4.4: The Impact of South Africa's Political Change on its Tourism



4.3.2 Expenditure Shares

Table 4.2 shows the tourism expenditure shares, computed as fractions of the total tourism expenditures of the three countries, that are attributable to each of them for 1970, the sample mean, and 1998. Compared to Kenya and South Africa, Tanzania has generally been lagging behind in tourism trade. Whereas the proportion of Tanzania's tourism expenditure was 8% in 1970, it picked up to reach a level of 13% in 1998. However, reflecting poor performances in the 1970s and 1980s, the mean share for Tanzania during the period was a paltry 5%.

Conversely, Kenya, even if showing a somewhat declining trend of late, has generally performed better than Tanzania during the 1970-98 period. In 1970, Kenya's share of tourism expenditures was nearly a third of this market, at 31%. This share declined all the way to 13% in 1998. However, the good performances of the 1980s more than offset the poor performances of the 1990s to give Kenya a mean share of 26.2%, which is more than 5 times the mean of Tanzania.

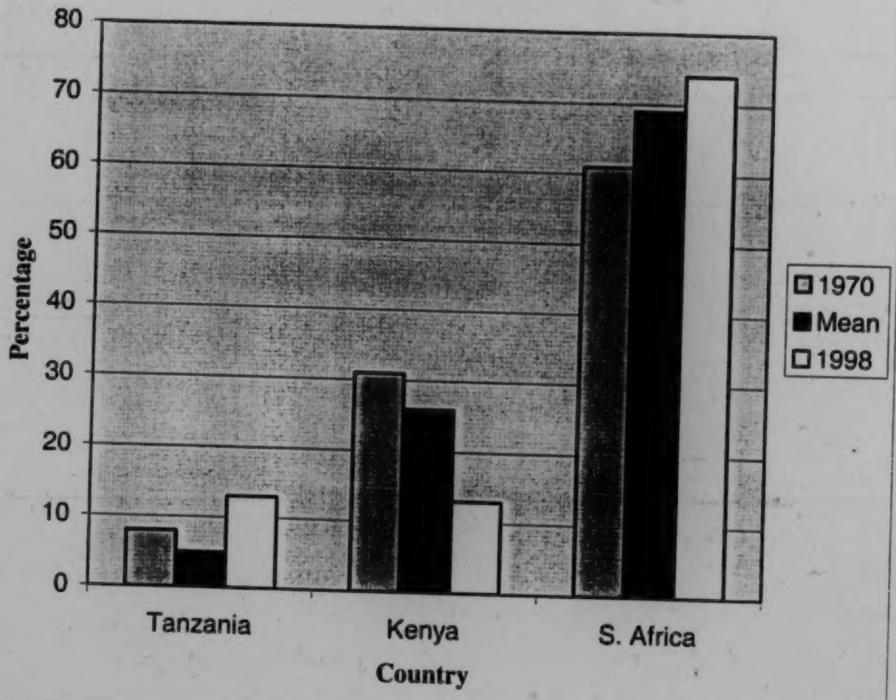
Table 4.2: Tourism Expenditure Shares for 1970, Sample Mean and 1998

YEAR	TANZANIA	KENYA	SOUTH AFRICA
1970	0.08	0.31	0.61
Mean	0.05	0.26	0.69
1998	0.13	0.13	0.74

Source: Estimation results

The two countries' shares combined pale in comparison to South Africa's share, which increased from 61% in 1970 to 74% in 1998. The mean expenditure share for the period was 69%, implying that during the 1980-1998 period, South Africa's performance

Fig. 4.5: Changes in Tourism Revenue Shares in Tanzania, Kenya, and South Africa



was generally improving. Fig. 4.5 elucidates the changing shares of tourism revenues in Tanzania, Kenya and South Africa from 1970 to 1998.

4.3.4 Expenditure Shares versus Tourist Number Shares

The dominant position of South Africa is even more evident when comparing the revenue shares to tourist arrival shares (Table 4.3). The mean revenue share for South Africa (68.8%) is higher than its mean tourists' share (62.7%). The corresponding revenue share means for Tanzania and Kenya are, respectively, 5% and 26.2%, both of which are lower than the countries' respective tourists' shares of 9.5% and 27.8%. The implication of these statistics is that over the 1970-1998 period, South Africa had more tourism expenditure per tourist and thus had the most "high value" tourism industry, followed by Kenya and, finally, Tanzania.

Table 4.3: Revenue Shares versus Tourist Arrival Shares (%) in Selected Years (Tourist % in Brackets)

YEAR	TANZANIA	KENYA	SOUTH AFRICA
1970	8.0 (8.6)	31.3 (34.1)	60.7 (57.3)
1975	3.3 (18.4)	19.3 (29.0)	77.4 (52.6)
1979	2.0 (14.9)	25.3 (26.4)	72.6 (58.7)
1983	1.9 (6.8)	23.6 (27.9)	74.4 (65.3)
1987	2.8 (8.5)	43.3 (38.5)	53.9 (53.0)
1991	4.2 (8.1)	29.9 (37.0)	66.0 (54.8)
1995	9.4 (5.5)	20.7 (17.3)	69.9 (77.2)
1996	11.2 (5.3)	19.7 (14.3)	69.1 (80.4)
1997	11.6 (5.3)	16.9 (13.4)	71.6 (81.3)
1998	13.0 (5.4)	12.6 (12.0)	74.4 (82.6)
MEAN (1971-98)	5.0 (9.5)	26.2 (27.8)	68.8 (62.7)

Source: Estimation Results

4.3.5 Tanzania versus Kenya in the 1990s

If Tanzania and Kenya's tourism industries are examined over time, it can be deduced that Tanzania has made significant improvements in the 1990s. As can be seen in Table 4.4a, the number of tourists visiting Tanzania increased almost consistently, from 84,021 in 1980 to 137,889 in 1989 (an increase of 64.1 percent). This increase was followed by another 215 percent increase, from 153,000 tourists in 1990 to 482,331 tourists in 1998.

In addition, the industry seems to have undergone significant changes in terms of its value of revenue/tourist ratio (RTR).[15] Between 1980 and 1989, Tanzania's RTR increased from US$235 to US$435, which translates to an 85.1 percent rise. The trend has been more favourable in the 1990s: the RTR rose consistently from US$435 in 1990 to US$ 1,182 in 1998, an increase of 178% over the period. This suggests that Tanzania has recently improved to a "high-value" destination as has also been suggested by another study by the Economic Research Bureau (1999)[16]. Between 1986 and 1998, the changes in the number of tourists and tourism revenues to Tanzania have consistently been on the positive range (see Fig. 4.6).

---

15 The ratio is obtained by dividing tourism revenues by the number of tourists who arrived in a country in a particular period, such as a year.

16 Macroeconomic Reforms and Sustainable Development in Southern Africa: Tanzania Tourism Case Study Economic Research Bureau, University of Dar es Salaam, Revised Report submitted to WWF-US/MPO, Washington, DC.

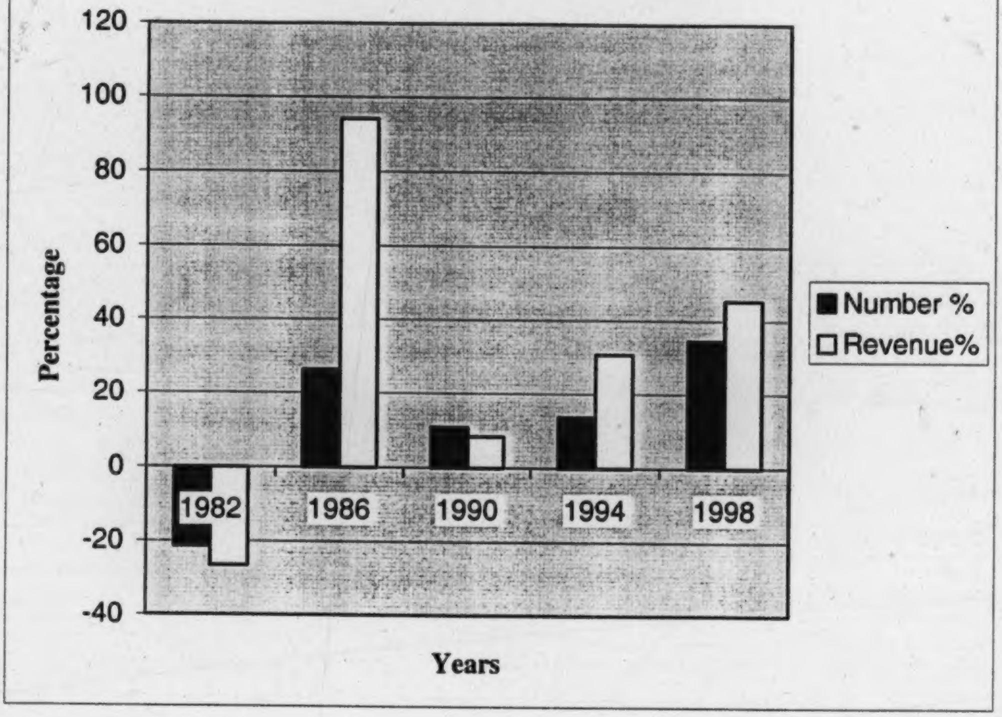
Table 4.4a: Foreign Tourism Indicators for Tanzania (1980-1998)

YEAR	NUMBER OF TOURISTS	GROWTH RATE (%)*	EARNINGS (US$ MILL)	GROWTH RATE (%)*	RATIO EARNINGS/ TOURISTS*
1980	84,021	-	19.7	-	235
1981	92,000	9.5	21.61	9.7	235
1982	71,290	-21.4	15.22	-26.6	214
1983	54,000	-25.3	12.81	-15.8	237
1984	64,000	18.5	9.38	-26.8	147
1985	81,821	27.8	10.3	9.8	126
1986	103,363	26.3	20	94.2	193
1987	130,851	26.6	31.05	55.3	237
1988	130,343	-0.4	40.4	30.1	310
1989	137,889	5.8	60.0	48.5	435
1990	153,000	11.0	65.0	8.3	425
1991	186,000	21.6	94.73	45.7	509
1992	201,744	8.5	120.04	26.7	595
1993	230,166	14.1	147.0	22.5	639
1994	261,595	13.7	192.1	30.7	734
1995	293,834	12.3	259.44	35.1	883
1996	326,192	11.0	322.37	24.3	988
1997	358,811	10.0	392.4	21.7	1094
1998	482,331	34.4	570.0	45.3	1182

Source: Tourism Department, Ministry of Tourism and Environment Tanzania

*Own computation

Fig. 4.6: Growth Rates of Number of Tourists and Tourism Revenue in Tanzania in Selected Years



Concerning the numbers of tourists going to Kenya, changes have been dramatic in the 1980s but less so in the 1990s (Table 4.4b). The numbers of tourists in the 1980s were not only greater than the corresponding figures for Tanzania throughout the period but they also increased from 290,700 in 1980 to 641,100 in 1989, a 121 percent increase. However, the 1990s have seen Kenya's numbers stagnating and sometimes dropping; between 1990 and 1998, the numbers fell from 695,100 to 686,900, representing a –1.3 decline.

Table 4.4b: Foreign Tourism Indicators for Kenya 1980-1998

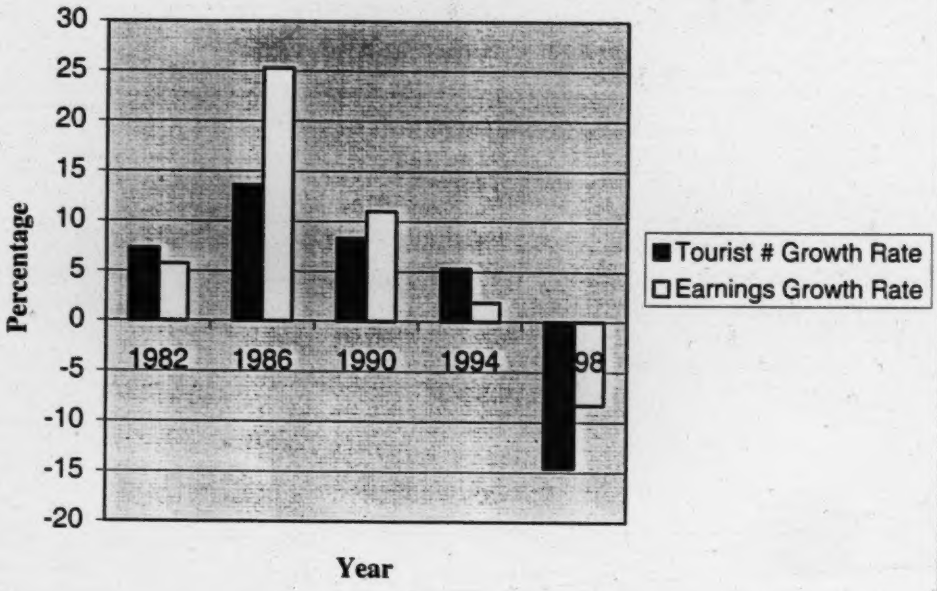
YEAR	NUMBER OF TOURISTS	GROWTH RATE (%)*	EARNINGS (US$ MILL)	GROWTH RATE (%)*	RATIO EARNINGS/ TOURISTS*
1980	290,700	-	220.0	-	756
1981	273,900	-5.8	175.0	-20.5	639
1982	294,000	7.3	185.0	5.7	629
1983	284,300	-3.3	195.0	5.4	686
1984	253,400	-10.9	210.0	7.7	829
1985	413,200	63.1	249.0	18.6	603
1986	469,200	13.6	312.0	25.3	665
1987	529,100	12.8	344.0	10.3	650
1988	555,900	5.1	410.0	19.2	738
1989	641,100	15.5	420.0	2.4	654
1990	695,600	8.3	466.0	11.0	670
1991	673,300	-3.2	432.0	-7.3	642
1992	606,700	-9.9	442.0	2.3	729
1993	782,400	29.0	413.0	-6.6	528
1994	823,600	5.3	421.0	1.9	511
1995	795,700	-3.4	454.0	7.8	571
1996	820,800	3.2	470.4	3.6	573
1997	804,800	-1.9	388.0	-17.5	482
1998	686,900	-14.6	356.0	-8.3	518

Source: Tourism Department, Ministry of Tourism and Environment Kenya

*Own computation

The revenue-tourist ratio gives a similar picture for the 1980-1998 period. This ratio was in the $600 range throughout the 1980s except for 1980 ($756), 1984 ($829) and 1988 ($738). Compared to Tanzania, whose RTR was mostly below the $400 mark, Kenya was the "higher-value" destination of the two during the 1980s. However, the

Fig. 4.7: Growth Rates of Tourist Numbers and Tourism Revenue in Kenya in Selected Years



RTR declined from US$ 756 in 1980 to US$ 654 in 1989, a decrease of 13.4 percent. This compares negatively with the 121 percent increase in the tourist numbers during the same period. Relatively, it also compares adversely with Tanzania's RTR, which increased by 85 percent during the same period.

In the 1990s, Kenya's position seems to have deteriorated further, this time not only relatively but also in absolute terms when compared to Tanzania. The RTR dropped from $670 in 1990 to $518 in 1998, a 23% decrease. Considering that during the same period (1990-98) Tanzania's RTR increased by 178%, it can be inferred that Tanzania is currently a "higher-value" destination than Kenya. Figure 4.7 shows the growth rates of the tourist numbers and the revenue per tourist ratio in Kenya from 1982 to 1998. Generally, it can be deduced that the growth rates have been declining consistently from 1986, when they were the highest, to 1998, during which time they fell into the negative range.

4.3.6 Homogeneity and Symmetry Tests

Before using the AIDS model to generate price and expenditure elasticities, the study tested its suitability. Both homogeneity and homogeneity and symmetry, tested by the likelihood ratio tests, were not rejected at the 5% level of significance (Table 4.5). The Chi-squared statistic for the homogeneity test (with two degrees of freedom) is 5.07, which was lower than the corresponding critical Chi-squared value of 5.99 at the 5% level. Similarly, the chi-squared statistic for homogeneity and symmetry combined (with three degrees of freedom) is 6.4, while the corresponding critical chi-squared value is 7.8. However, although neither of the two hypotheses was rejected, both restrictions were imposed on the estimation in order to reduce the number of estimated parameters and thus improve the degrees of freedom.

Table 4.5: Likelihood Ratio Tests for Homogeneity, and Homogeneity and Symmetry

Test	Homogeneity (2df)	Symmetry & Homogeneity (3df)
Chi-Square Statistic	5.07	6.4

Note: Chi-Square (5%, 2)=5.99, and Chi-Square (5%, 3)=7.81473

4.3.7 Negativity Test

A test for negativity was rejected as two of the Eigen values were non-negative (Table 4.6). For the test not to be rejected, all three Eigen values ought to be non-positive. The positive values are, however, close to zero; thus, the results of the study are not invalidated.

Table 4. 6: Eigen Values

Country	Tanzania	Kenya	South Africa
Eigen Value	0.0019044	0.000021	-0.002947

Source: Estimation Results

4.3.8 Uncompensated Price and Income Elasticities

Table 4.7 provides more information with respect to Marshallian (also called the "uncompensated") price elasticities for Tanzania, Kenya, and South Africa. All the three own-price elasticities ($PRICE_{11}$, $PRICE_{22}$ and $PRICE_{33}$) have the expected negative sign and are all statistically significant at the 5% level. Tanzania's cross-price elasticity with respect to Kenya's ($PRICE_{12}$) bears a negative sign, implying that each of the two markets is the other's complement: an increase in prices in Kenya (or Tanzania) also leads to fewer tourists (and revenue) to the other country. However, the variable is statistically insignificant, implying that the cross-relationship between Tanzania and Kenya is not firmly established. Tanzania's cross-price elasticity with respect to South Africa's tourism gives a different picture as the corresponding coefficient ($PRICE_{13}$) is both positive and statistically significant at the 5% level. The implication here is that these two markets are substitutes for each other, in that an increase in prices in South Africa leads to more tourists (and revenues) to Tanzania and vice versa. The cross-price elasticity between Kenya and South Africa ($PRICE_{23}$) indicates that the two markets are complements to each other; however, the coefficient is weakly significant, holding only at the 10% level.

The income variables (G's) for both Tanzania and Kenya have negative coefficients although only Tanzania's coefficient (G_1) is statistically significant at 5%. This would imply that their income elasticities, which by calculation are 0.538 for Tanzania and 0.711 for Kenya,[17] are inelastic: as tourists' incomes increase by, say, one percent, they increase their expenditure on tourism in Tanzania and Kenya by only 0.5 percent and 0.7 percent respectively. The corresponding income coefficient for South Africa (G_3) is positive and statistically significant at the 5% level. Its income elasticity (1.313) is elastic: as their incomes increase by one percent, tourists increase their tourism expenditure in South Africa by 1.3 percent.

---

[17] The income elasticity for the AIDS model is $\eta_i = 1 + \frac{\beta_i}{w_i}$, where η_i =income elasticity, β_i =income coefficient, and w_i =expenditure share.

Finally, the time variable was included and tested to see whether or not tourism demand has grown over the 1970-98 period. The estimated coefficient is positive and significant at 1% level, indicating that there has been a growing trend of tourism in Tanzania, Kenya, and South Africa.

Table 4.7: Uncompensated Price and Income Elasticities

Parameter	Estimated Coefficient	Standard Error	T-Ratio
CON1	0.0206**	0.0081	2.5631
PRICE11	-0.0601**	0.0271	-2.2177
PRICE12	-0.0074	0.0276	-0.2665
PRICE13	0.0674**	0.0272	2.4800
G1	-0.023**	0.0089	-2.5842
CON2	-0.0021	0.0100	-0.2065
PRICE21	-0.0074	0.0276	-0.2665
PRICE22	-0.0911**	0.0415	-2.1971
PRICE23	-0.0837*	0.0424	-1.9743
G2	-0.0490	0.0604	-0.8112
CON3	0.9814***	0.2333	4.2066
PRICE31	0.0674**	0.0272	2.4800
PRICE32	-0.0837*	0.0424	-1.9743
PRICE33	-0.0163**	0.0070	-2.3422-
G3	0.2158**	0.0814	2.6513
TIME	0.042***	0.0096	4.375
RHO	0.0604**	0.0276	2.1893

- * implies significance at 10% level.
- ** implies significance at 5% level
- *** implies significance at 1% level

Note: the critical t-statistic at the10% level of significance with 23 degrees of freedom = 1.714
5% level with 23 degrees of freedom = 2.069
1% level with 23 degrees of freedom = 2.807
1=Tanzania 2 = Kenya 3 = South Africa

4.3.9 Expenditure Elasticities

Further information about the responsiveness of the tourism industry to price changes in the three countries is provided by the expenditure elasticity values. The estimated expenditure elasticities calculated for 1970, at the sample mean and for 1998, are presented in Table 4.8.

Both Tanzania and Kenya's expenditure elasticities for 1970 are less than one, implying that tourism expenditure in these two countries was inelastic that year. Compared to Kenya, however, Tanzania, with elasticity of 0.48, was more inelastic than Kenya, whose corresponding value was 0.84. In contrast to Tanzania and Kenya's values, South Africa's expenditure elasticity in 1970 was elastic, recorded at 1.59.

Table 4.8: Expenditure Elasticities Evaluated for 1970, Sample Mean and 1998

MODEL	TANZANIA	KENYA	SOUTH AFRICA
1970	0.4789	0.8446	1.5922
Mean Sample	0.2164	0.8625	1.5012
1998	0.6959	0.7979	2.0326

Source: Estimation Results

The expenditure elasticity values calculated at the sample mean indicate that Kenya's elasticity, while still inelastic, improves from 0.84 recorded in 1970 to 0.86. In contrast, Tanzania's expenditure elasticity falls to 0.22, implying that tourism expenditure had become more inelastic in the mid-1980s. South Africa's value, at 1.50, remains in the elastic range.

The values for 1998 show some significant changes for all three countries. The value of Tanzania's tourism expenditure elasticity increased by over 200 percent from the mean value of 0.22 to 0.70 in 1998. Kenya's corresponding value is shown to have fallen from the mean value of 0.86 to 0.80, a slight decrease of about eight percent. South Africa is shown to have improved further as its expenditure elasticity was 2.03 in 1998, a 35 percent increase over the sample mean value of 1.5.

Although the expenditure elasticities for Tanzania and Kenya are still in the inelastic range, their main significance is that they can serve as indicators of the future of tourism in each of these two countries, given the current policies. They also highlight the position of the region's strongest competitor in nature and wildlife-related tourism, South Africa.

4.3.10 Compensated (Hicksian) Price Elasticities

Compensated price elasticities are a clearer indication of the relationship between price and the quantity demanded as they are free from income effects (Varian, 1992). The compensated own and cross-price elasticities, estimated for 1970, at the sample mean and for 1998, are given in Tables 4.9, 4.10 and 4.11, in that order. All the own-price elasticities are in agreement with theory, as they are all negative.

Table 4.9: Compensated Own and Cross-Price Elasticities for 1970

	Tanzania	**Kenya**	**South Africa**
Tanzania	-0.8677	0.2925	0.5751
Kenya	0.2967	-0.3957	0.0990
South Africa	0.5052	0.0857	-0.2207

Table 4.10: Compensated Own and Cross-Price Elasticities at the Sample Mean

	Tanzania	Kenya	South Africa
Tanzania	-1.0694	0.3220	0.7474
Kenya	0.1922	-0.3879	0.1957
South Africa	0.3695	0.1621	-0.2183

Table 4.11: Compensated Own and Cross-Price Elasticities for 1998

	Tanzania	Kenya	South Africa
Tanzania	-0.5611	0.2292	0.3320
Kenya	0.5181	-0.3819	-0.1362
South Africa	0.8711	-0.1581	-0.0676

The cross price elasticities are positive for 1970 and at the sample mean, suggesting that these types of destinations were substitutes for one another. However, the values for 1998 indicate that South Africa and Kenya are complements to each other, as the compensated cross-price elasticity is negative. The sign of the cross-price elasticities between Tanzania and South Africa remains positive.

4.4 Implications of the AIDS Model Results

4.4.1 South Africa vs. Tanzania and Kenya

From the results presented above, important implications for the tourism sector in Tanzania and Kenya can be deduced. First, it can be seen that South Africa outperforms both Tanzania and Kenya in all tourism indicators, such as the total number of tourists, the total tourism expenditure, and the expenditure per tourist. It was shown that the end to apartheid enhanced South Africa's superior position; however, it is not clear whether or not more people are visiting the country to see the way the political reforms are transforming the country rather than for tourism per se. It is possible, however, that South Africa is more successful as it has well developed economic and infrastructural networks that are unavailable in Tanzania and Kenya. Thus, tourists from developed countries may feel more comfortable to visit South Africa than visiting Tanzania and Kenya. Given that Tanzania and Kenya are home to some of the world's best-known tourist attractions, these results suggest that there is room for major improvements in these two countries for each of tourism indicators. In our view, the most important indicator that needs to be improved is the expenditure per tourist.

Raising the expenditure/tourist ratio will boost these countries' economies without necessarily requiring them to embrace mass tourism, which is likely to lead to degradation of the tourist attractions. As will be seen in Chapter 7, the tourism sector in the region has encouraged construction or establishment of a number of tourist hotels, tour companies, curio shops and training institutions. However, these establishments have not succeeded in inducing the much needed tourism expenditure to the levels that will benefit the local economy. This is supported by the estimated expenditure elasticities: the values for Tanzania and Kenya are shown to be below unity and lower than that of South Africa. To increase the value of expenditure elasticities, the governments of Tanzania and Kenya should devise mechanisms that will encourage the tourists to spend more on local products. This may be forthcoming if policies are put in place to promote local products to tourists. Hand in hand with this, the governments should also provide education to local producers on how to ensure that their products meet the standards acceptable to tourists.

4.4.2 Market Substitutability/Complementarity

Results also indicate that generally, Tanzania, Kenya and South Africa are substitute markets, implying that Tanzania and Kenya need not only to compete against each other but, as a region, also compete against South Africa.

The more interesting finding for the formulation of a sustainable tourism policy in the region is that Kenya and Tanzania, as tourism markets, are substitutes to each other. This result is in line with the reality in East Africa. Both Tanzania and Kenya are endowed with similar tourist attractions, such as game parks, beaches, and mountains (Honey, 1995). Some of the parks, such as the Serengeti in Tanzania and Masai Mara in Kenya, share the same animals. Even the Masai tribe—a unique pastoral people who have preserved their traditions more than most tribes in East Africa and are an attraction to tourists—can be observed in either Tanzania or Kenya as they live in these two countries. Thus, a policy change that discourages tourists in one country, say a steep rise in price, will lead to the tourists increasing their visits (and expenditure) in the other, and vice versa, and hence the substitutability. One implication of this result is that difference in policies, rather than endowment differences, is the major factor behind either Tanzania or Kenya outperforming the other.

But more importantly, that Kenya and Tanzania are substitute tourism markets is significant because in 1994 these two countries, together with Uganda, signed a treaty to revive the defunct East African Community (EAC)[18] The ultimate goal of the treaty is to form a political federation. When the federation comes to full operation, a single organ (e.g. a ministry) is expected to organize the activities of the tourism sector in all three countries. With competitive partners making the federation, such a ministry will face enormous challenges. In particular, since Kenya and Tanzania are competitors, the tourism stakeholders may want to know whether or not these countries should develop joint tourism programs.

---

[18] Established in 1967, EAC collapsed ten years later due to economic and political differences among members.

These concerns would not be unfounded. As recent as June 2001, a regional newspaper[19] pointed out the skepticism of the Kenya tour operators about the outcome of the ongoing efforts to turn East Africa into a one-stop tourism destination because the disharmony of the tourism policies pursued by Kenya and Tanzania rules out such an eventuality. In particular, the paper points out that whereas Kenya promotes mass tourism, Tanzania is going for the more selective but highly lucrative up-market segment, which will foster the development of eco-friendly and environmentally sustainable tourism to preserve its resources.

Both approaches have their positive and down sides. Mass tourism is good for a country that desperately needs foreign currency and finds it more difficult to earn the same through other alternatives. Kenya also argues that mass tourism is to be promoted because "the students of today are the higher spending tourists of tomorrow." [20] However, this policy assumes that the ecosystems can support such flows. It further assumes that the tourists coming into the country will make a financial contribution that will more than offset the negative impacts caused by their big numbers. The down side is that if these assumptions do not hold, mass tourism could adversely affect the long term sustainability of the sector. It is also not certain that when tourists become more affluent they would not go to other areas other than the ones they visited as backpack tourists.

---

19 The East African, June 11-17, 2001

With regard to the approach that shuns mass tourism, such as the one adopted by Tanzania, its benefit lies in the fact that it is more 'environmentally friendly,' as it encourages the inflow of fewer but more spending tourists. This is so because whereas their expenditure contributes to the development of the local economy, their fewer numbers ensure that they do not put too much stress on the ecosystems that support the tourist sites. The disadvantage of this policy is that it alienates middle and low income tourists and it could lead to too few tourists whose financial contribution may not be sufficient to run the industry. Furthermore, the policy may not work as expected because the expenditure elasticity for Tanzanian tourism is less that unity, implying that as income rises, less of tourism is demanded. Targeting the rich may be counterproductive if tourists tend to prefer Tanzania less as they become richer.

These policy differences need to be reconciled before a viable tourism policy can be developed in the region. Policy makers need to acknowledge the hypothesis that given the potentially fragile nature of the ecosystems in East Africa, mass tourism may not be sustainable in the long term. This is may be more evident for Kenya, whose total area under conservation is only 22% of that of Tanzania. And as said above, policy makers also need to realize that pursuing a policy that targets higher income tourists may be counterproductive, and this is more evident for Tanzania that has a weaker service base than Kenya. If this policy chasm is left unattended, it is likely to be a major stumbling block in ongoing talks between regional tour operators and the relevant government agencies assigned to formulate a uniform approach that will harmonize the tourism policies in the three East African countries.

---

20 The East African, June 11-17, 2001, quoting David Onyango, the Kenya Association of Tour Operators (KATO) administration manager.

The other issue that needs to be addressed in relation to the competitive nature of tourism between Tanzania and Kenya is whether or not the two countries have any room left to promote tourism jointly. For example, should Dar es Salaam and Zanzibar beaches be promoted with the Mombasa beaches? Should the Serengeti and Masai Mara be promoted jointly, so that a tourist can move from one to the other without having to move back to Nairobi or Arusha before he can reach the other park? These questions are important because currently, to control entry into the Serengeti, Tanzanian authorities have barred border entry from Masai Mara in Kenya and tourists wishing to enter Serengeti have to drive back to Nairobi and enter Tanzania through Namanga. This, according to Kenyan authorities, has increased costs and are a disincentive to the tourists. Tanzania has also refused to allow Kenyan registered tour vans into its parks and Kenyan tour operators wishing to take guests to Tanzania can only do so by using Tanzanian agents.

While these cautious steps taken by Tanzania to stem exploitation by its more established neighbour are understandable, it must be realized that they do not augur well with the long term spirit of the community. Nor will this situation help the region to successfully compete with South Africa or other regions in the continent. As such, the restrictions should be eased slowly while empowering the local actors in Tanzania so that, eventually, free movement of people and resources is attained.

4.4.3 The Role of Internal Condition and Policies

It can also be deduced from the model's results that Kenya has generally done better than Tanzania over the whole period of the study; however, this edge is slowly diminishing. The narrowing gap can partly be attributed to Tanzania's improved performance in the 1990s but it is also due to Kenya's domestic problems during the same period.

The changes in performance can be linked to political and other internal conditions in the region. For example, the dismal performance of tourism in Tanzania is linked to the 1970s and the early 1980s when Tanzania was following socialist policies. The introduction of the liberalization and structural adjustment policies in the mid-1980s led to a better performance. Since then, there has been a consistent improvement as more reforms are being introduced. In contrast to Tanzania, Kenya has always been a pro-market economy and has had a relatively better and more stable tourism performance. However, Kenya's internal conflicts, increased insecurity and recent diplomatic differences between the country and the West could explain some of the current decline in its tourism performance.

Domestic unrest, however, is not happening and has not happened to Kenya alone. In Africa, where social, political and judicial institutions are still at an infant stage compared to similar institutions in the West, undesirable elements are not uncommon and have, in turn, seen even the formerly most peaceful countries in the continent fall in turmoil, at least briefly. When such situations occur, governments need to respond quickly to contain them as did the Tanzanian government following the January 2001unrest in Zanzibar. In this way, violence is viewed as normal incidents that occur in countries from time to time, and need not negatively affect tourism for extended periods of time. Delaying to restore the situation to normalcy, such as the Kenya government did following the Likoni clashes in 1997, can result in tainting the image of that country and discouraging tourists from choosing it.

Further evidence that a country's tourism performance is affected by the country's political situation can clearly be seen in South Africa. With the release of Nelson Mandela from prison and an end to the apartheid system, tourism in that country has performed rather well, judging from the number of tourists and tourism revenues. Thus, for Tanzania and Kenya to raise and sustain the tourism industry, the need to pursue policies that are conducive for tourism and also that promote political stability cannot be overemphasized.

Finally, policies that directly affect tourism need to be re-examined. One such policy is the taxation system that has been blamed for its multiplicity and many loopholes for corruption, especially in Tanzania (ERB, 1999). Since these costs are passed on to tourists, it raises the price that the latter pay.[22] In the particular case of the countries examined in this study, the fact that the own-price elasticities were found to be negative and significant makes it more imperative to establish reasonable prices to avoid turning away tourists to other countries or regions.

4.5 Conclusion

The main subject of this chapter was presentation of results of the AIDS model using time series data (1970-98) on tourism expenditures and prices for Tanzania, Kenya, and South Africa. It was shown that in terms of tourism performance, South Africa has, over time, been the tourism leader of the three, with Kenya following and Tanzania coming last. However, data for the 1990s indicate that Tanzania's position is improving relative to that of Kenya. Furthermore, the findings of the AIDS model do not shed light on individual tourists' perceptions on what the destination countries offer. It is therefore deemed useful to do another estimation using a different approach and a different type of data in order to fill in these gaps. This goal is covered in the next two chapters.

---

[22] Cognizant of this problem, the Tanzanian government tried to provide some relief by abolishing the tourism landing tax in June 2001.

CHAPTER 5: SPM LITERATURE REVIEW, MODEL, DATA

5.0 Introduction

In this chapter, a literature review on a microeconometric non-market approach of tourism demand estimation is presented. The chapter also derives the model that will be used to estimate demand for tourism using survey data on tourists who visited Tanzania and Kenya between November 1999 and April 2000. Section 5.1 presents a literature review on non-market studies of tourism demand, focusing on the Stated Preference Method (SPM) approach. This is followed, in Section 5.2, by a derivation of the Multinomial Logit model, which is used for estimation in the next chapter. Finally, Section 5.3 discusses data collection and their management.

5.1 Literature on Non-Market Tourism Studies

5.1.0 An Overview

Although tourism has been analyzed mainly using time series data (such as it was done in Chapter 4) it can also be modeled using cross-sectional data. This type of analysis has been used to investigate changes in the pattern of demand across countries and can be either macroeconomic or microeconomic in nature. Most empirical studies have mostly been macroeconomic in nature, with limited microeconometric models on individual tourism behaviour (Morley 1994). However, microeconometric models are more appropriate for analyzing destination choice among individuals.

Microeconometric models of tourists' destination choices can also be based on either revealed preference (RP) or stated preference (SP) data. Such approaches refer to the manner in which individual preferences are obtained for economic analysis. RP data are based on actual individual behaviour, while SP methods directly ask respondents for their preferences to given hypothetical situations. According to Crouch (1994), most tourism demand studies have only modeled actual demand. That is, models have been based on RP data. Suppressed demand (potential or deferred) studies have largely been ignored. However, it is this type of demand that needs to be examined for forecasting and sustainable development planning purposes and hence the need for this study to supplement the RP findings (developed from the AIDS model) with the findings obtained used an SP approach. In addition, econometric forecasting models in the tourism and recreation literature have largely been restricted to regression models and to the travel cost model, both of which have come under great criticism (Crouch 1994).

Since natural environments are becoming popular outdoor recreation sites among tourists, tourism planners have to be aware of the benefits that these nature-based tourists are seeking in order to be more effective in marketing and in provision of services (Silverman *et al* 1995). Countries such as Tanzania and Kenya that attract this type of tourism rely heavily on the provision of environmental attractions (such as wildlife viewing), which are not allocated through markets. As a result, economic analysis and forecasting of demand for such ecological tourist destinations require environmental quality data that are often difficult to model using traditional RP methods.

This section will briefly examine the limitations and weaknesses imposed by RP models. Alternative demand models based on stated preference (SP) methods are then presented. Finally, the section will illustrate the flexibility and appropriateness of stated choice experiment for forecasting and analyzing demand for nature-based tourist destinations.

5.1.1 Using RP Models to Forecast Demand

Most tourism demand analyses have relied on data derived from direct observation and measurement of actual tourism behaviour, known as Revealed Preference (RP) data. Therefore, although econometric RP models of tourist demand have been many, they have mostly been used in a macroeconomic framework, with few studies on the microeconomic analysis of international tourist demand. Moreover, microeconometric RP models of tourism demand found in the recreation literature have mostly been centred on the travel cost model (TCM) (Bockstael *et al* 1987). For example, Grandstaff and Dixon (1986) estimated the willingness to pay for Lumpinee Public Park in Bangkok, Thailand, while Brown and Henry (1989) used TCM to value the viewing of elephants by tourists in Kenya. In the USA, Bell and Leeworthy (1990) used the TCM model to value the benefits of Florida beaches to tourists.

The travel cost method, used in all of the studies above, is one of the indirect approaches to valuing non-market goods. Developed specifically to value outdoor recreation, the TCM uses travel cost as a proxy for price of travel. It is based on the assumption that demand for a recreation site is based on the travel cost to the site. Hence, assuming that traveling is costly, and cost increases with distance, then it follows that the number of visits to a site declines as the cost of traveling to the site increases (Randall 1994). The traditional TCM values only one site being considered by tourists (Hotelling and Clawson 1982). By establishing visitor use rates for vacationers at different distances from the site, the numbers of visits are analyzed as a function of the travel cost price, environmental site attributes, and socio-economic characteristics of the vacationers to estimate the demand curve.

In spite of the appeal this method may have for analyzing tourist demand for a site, it has been heavily criticized (see, for example, McConnell and Strand 1988; Fletcher *et al* 1994; Randall 1994 and Rahemtulla, 1998), the main criticism being its failure to measure non-use values. This shortcoming led researchers to doing a variety of modeling frameworks over the years, including the hedonic price method (HPM) (Bockstael *et al* 1987; Brown and Mendleson 1991) and the discrete choice TCM modeled in a random utility model (RUM) framework (McFadden 1974; Ben-Akiva and Lerman 1985). The HPM, formalized by Rosen (1974), is based on an approach that incorporates non-market goods into the price of a market good. To the extent that such non-market values may reflect potential uses, the HPM is capable of measuring indirect benefits such as aesthetic value (Asafu-Adjaye, 1989).

The discrete choice RP demand models explicitly incorporate both the relevant substitution and site quality effects that influence recreationists' choices regarding where and how often to recreate (Adamowicz *et al* 1994, 1995). Implicit in the structure of such multi-site demand models is an assumption regarding how vacationers reallocate visits when faced with quality changes at a given destination (Caulkins *et al* 1986). The model treats the choice of sites as an explicit function of site characteristics and deals explicitly with choosing one site/destination among many. In essence, RUM represents a more realistic decision making process to analyze tourist behaviour, making it a very appealing framework for researchers.

The improvement of the traditional TCM to the discrete TCM framework has served to mitigate many difficulties found in the hedonic and conventional travel cost models. There are also other advantages of revealed preference (RP) models that make them an attractive method for forecasting demand for ecological tourism destinations. First, estimation of demand and welfare measures is based on observable behaviour. RP approach also generates welfare measures based on what people do, and it can estimate the demand for a specific site while linking environmental changes to that demand (Peters *et al* 1995). Consequently, forecasting demand and welfare estimates are argued to be more accurate than those generated using the stated preference (SP) models.

Despite the ability of the RUM framework to address certain key issues from conventional TCM, RP data are not error-free. First, tourism demand analyses using this data are restricted to variable ranges found to have existed in the past. This is a serious restriction if one wants to forecast the impact of an extreme change in environmental quality on tourism demand, such as total extinction of a species or extensive marine pollution caused by massive development projects. Such forecasts provide valuable information for sustainable tourism planning and for effective marketing strategies. Second, sufficient variation over the revealed data period is hard to obtain, especially if the changes in environmental attributes under study tend to be minimal. Thus, it is impossible to reliably model the impact of these variables.

Third, revealed preference data often suffer from collinearity among attributes. This is often the case with environmental attributes, with tourist attributes, and with variables included in the travel cost variable. While separation of these attributes is necessary for policy analysis and in turn for more effective marketing strategies, this econometric problem precludes the isolation of such factors (Adamowicz *et al*, 1994).

Further methodological problems with RP tourism models arise in the form of data availability and accuracy. That is, researchers frequently use consumer price indices to reflect prices of tourism services since travel price indices are rarely available (Crouch, 1994). Data on airfares are also often difficult to obtain and are complicated by the variety of fare types. In brief, these data problems make it difficult to estimate parameters reflecting the proper trade-off ratios that can be used to guide tourism development (Kroes and Sheldon, 1988).

5.1.2 Using Stated Preference/Choice Method to Forecast Demand

The weaknesses of the RP approaches as discussed above led economists to seek new methodologies that are not based on observed behaviour. One of these approaches is the contingent valuation method (CVM). The CVM utilizes interviews or mail surveys to ask people about the value they would place on the commodity in question contingent on the existence of a market or other means of payment. For example, in the case of this study, a CV questionnaire could be designed in such a way as to ask respondents to indicate the amount of dollars they would be willing to pay to have the African wildlife habitats preserved. This dollar amount is sometimes referred to as the "willingness-to-pay" (WTP). Alternatively, respondents may be asked to indicate the dollar amount they must receive in order not to have the habitats preserved, thus revealing their "willingness-to-accept-compensation" (WTAC). Various techniques are used to elicit these responses, such as direct questions (open-ended, close-ended and dichotomous choice questions), bidding game methods, payment-card methods, and contingent ranking (Asafu-Adjaye, 1989). Whilst contingent valuation method is regarded to be flexible in that it can be applied to a wide range of valuation problems, it has also been shown to elicit "doubtful" responses (Asafu-Adjaye, 1989) due to the hypothetical nature of questions. Thus, respondents are likely to give "yea-saying" responses. CVM is also prone to a number of biases, especially the strategic behaviour it induces in respondents (Hanley et al. 1996). For a comprehensive conceptual and theoretical analysis of the CVM problems, interested readers are encouraged to see Bjornstad and Kahn (1996).

Another direct approach that can be used to analyze demand for ecological tourist destinations is stated preference method (SPM). This approach directly asks respondents about their preferences using surveys methods, soliciting current information about the factors that influence individuals' site choices—such as travel cost per trip, domestic price level, site characteristics—and information on demographic characteristics.

Unlike the RP models, the SPM has the relative advantage of decomposing a composite good into its constituent attributes, surveying respondents regarding their relative preferences for alternative bundles when multiple attributes are varied simultaneously, and quantifying marginal rates of substitution between attributes. The SPM has other advantages over other non-market approaches. First, like CVM, its analysis is flexible in that it is not restricted to past variable ranges. Hence, researchers can use the SPM to analyze the responses of individuals to attribute ranges not presently available. This is important as doing so helps in forecasting tourists' preferences, which in turn can guide sustainable tourism planning.

Second, as Adamowicz *et al* (1994) and Crouch (1994) noted, the SPM avoids measurement error and collinearity effects, common in RP approaches. Finally, the SPM approach can be used to measure non-use values (Pearce 1993, Freeman 1993).

What distinguishes SPM from CVM is that the former utilizes a technique that has a great potential for economic analysis and for forecasting international tourism demand; this is the stated Choice Experiment (CE). Stated choice experiments were motivated by conjoint analysis (Mackenzie, 1992) and developments in choice modeling and discrete multivariate analysis (Hensher, 1994). They have been applied to practical problems in marketing, transportation and planning, and environmental and recreation studies (Karugia 1997).

In conjoint analysis, three main response formats exist to obtain individual preferences: ranking, rating, and choice. The ranking approach asks the respondent to rank all commodity descriptions or combinations of attributes in order of preference. By way of contrast, the rating format asks the respondent to rate each commodity description in the set on an integer scale, which can then be transformed to a utility scale by making further assumptions. These two formats have their own shortfalls. In particular, Mackenzie (1992) has questioned the reliability of the responses obtained in the ranking format and the information efficiency of the rating format. The third format is the choice format, which asks an individual to choose a single preferred combination of attributes from the alternatives in the set. This approach, which will be used in this study, has a format with combinations of attributes that make up specific situations selected from the universe of possible situations (Adamowicz et al. 1995).

Although the use of CE data on tourism is not widespread, Rahemtulla (1998 p. 17) quotes some researchers as to the reasons for basing models of environmental preferences on this type of data. First, the response format allows data to be modeled in a discrete choice framework allowing the use of the Random Utility Models (RUM) in the data analysis. Thus, whereas a typical RP question asks respondents to choose between a base case and a specific alternative, a stated CE asks respondents to choose between cases that are described by attributes. These combinations of attributes make up specific situations that are selected from a universe of possible situations. This is analogous to the problem of decision making by tourists, who have to assess a variety of potential destinations before finally deciding to visit one destination.

Second, in the case of damage to a particular attribute, the CE approach allows for calculations of compensating amounts of other goods rather than monetary compensation. This implies that environmental policy makers can examine the number of environmental quality factors that the tourists are willing to trade off for one another.

Third, CE minimizes strategic behaviour and 'yea-saying' biases common in contingent valuation surveys. Respondents are said to exhibit strategic behaviour when they deliberately shape their answers to influence the outcome of the study—and thus the policy—in a way that serves their potential interest. Since the CE approach asks respondents to choose from various scenarios, it is difficult for them to behave strategically. With respect to 'yea-saying,' attribute levels change over the sets of choices, and hence respondents are rid of the moral dilemma of choosing between the status quo and an alternative. That is, it will not be clear to them which choice is the 'the environmentally friendly' alternative.

Finally, CE's successes in analyzing demand in the marketing and tourism fields, though fewer in number compared to studies using revealed preference data, further strengthen its suitability to estimate and forecast tourist demand for ecological destinations.

While CE has been useful in analyzing tourism, its use econometrically has not been widespread. Morley (1994) applied CE to analyze the choice of destinations by tourists leaving Kuala Lumpur given variations in tourist prices. The SPM analysis in his study provides insight into the derivation of the destination choice set facing tourists. Furthermore, according to Adamowicz et al (1994), estimating the value of a change in environmental quality or other relevant tourist attributes is analogous to the problem in marketing research of estimating demand for new products or services.

Whilst CE methods have many appealing traits, they also have some problems. For example, defining the choice set of all available alternatives is not an easy task. This can be especially difficult in the case of tourists to Africa, where the total number of destinations can be very large. To try to alleviate this problem, Morley (1994) cites other researchers who suggest that in a general model of traveler destination choice potential, tourists only seriously consider up to seven destinations.

Selection bias is also a problem with surveys and experiments carried out at destination or recreational sites. The sample of respondents cannot be representative of potential travelers to the destinations because the approach excludes respondents who might have chosen a specific destination under some circumstances but did not under the existing circumstances. Rahemtulla (1998) suggests that an optimal technique is to sample or experiment at the tourists' points of origin; undertaking such a task is, however, quite difficult in terms of its massive resource requirements. An alternative approach that we propose to use in this study is to conduct surveys at the points of entry but before vacationers visit the sites. Such points may be airports, harbours, or land borders. This method may not completely eliminate but may minimize bias.

The other defect of the choice experiments is involving the main effects statistical designs, thus limiting the attribute effects in the way they can enter the utility function.

Moreover, the survey design, information provision, and survey administration issues are as sensitive as they are in other direct approaches, such as the contingent valuation (Adamowicz et al, 1995).

Despite these problems, the CE approach appears to be the most suitable method for addressing the questions posed by this research. A Random Utility Model will be used to analyze the data and information elicited from respondents, the target group being the tourists entering Tanzania and Kenya from North America and Europe during the survey period.

5.2 Derivation of the Multinomial Logit Model

5.2.1 The Random Utility Theory

The neoclassical theory of demand can be extended to analyze the situations when the dependent variable is not continuous, that is, when the choice sets have discrete alternatives. The discrete choices made by an individual among alternatives can be modelled in a Random Utility Model (RUM) framework. Underlying the RUM are several structural and behavioural assumptions (Maddala 1983, Ben-Akiva & Lerman 1985). First, the environment is modelled as a bundle of objective and perceptive attributes. Second, all individuals are faced with a choice among discrete, quality differentiated environmental alternatives. Respondents are assumed to make their choice decisions based on the premise that, the utility of choosing an alternative i is greater than the utility of choosing any other alternative j, i.e.

$$U_{in} > U_{jn} \tag{5.1}$$

where U is the utility achievable and n is the decision maker.

Third, the behavioural assumption is that all individuals are aware of all the attributes in the set of available alternatives made. Thus, following Ben-Akiva and Lerman (1985) and Adamowicz, Williams and Louviere (1994), the individual's utility can be equivalently presented as a function of the attributes of the individual S_n and the attributes of the alternatives Z_{in}, thus,

$$U_{in} = V_i(S_n, Z_{in}) \qquad (5.2)$$

where U_{in} = individual $n's$ utility of choosing alternative i,

$S_{in} \equiv$ a vector of observable individual characteristics

Z_{in} = a vector of observable characteristics for alternative i accessible to individual n,

V_i = the systematic (predictable) component of individual $n's$ utility associated with S_{in} and Z_{in}

However, it has been noted that errors with utility maximization arise and are not known to the analyst with certainty (Ben-Akiva and Lerman 1985). Hence, utility in RUM is assumed to be a random function and is modelled as a conditional indirect utility function, taking the form given by (5.3) below:

$$U_{in} = V_i(S_n, Z_{in}) + e_{in} \qquad (5.3)$$

where $V_i(S_n, Z_{in})$ represents the observable attributes (deterministic component) and e_{in} is a random element associated with individual $n's$ utility from choosing alternative i. The latter varies randomly across observations, implying that different individuals will make different choices even when they are presented with the same set of alternative attributes and have the same preference parameters.

From (5.3), it can be observed that the utility of the individual, U_{in}, is postulated to be a sum of observable and unobservable components, specified as V_{in} and e_{in} respectively, the latter of which is treated as a random variable. Since the consumer will choose that product with the most desired set of attributes, the probability of choosing alternative i is taken to be equal to the probability that the utility of alternative i, U_{in}, is greater than or equal to the utilities of all other alternatives, *j*, in the choice set. That is,

$$\eta_n(i) = Pr\,[V_{in} + \varepsilon_{in} \geq V_{jn} + \varepsilon_{jn} \quad ; \quad \forall \;\; j \in C_n \,] \qquad (5.4)$$

where $\pi_n\,(i)$ = the probability of individual n choosing alternative i, and

C_n = the choice set for individual n.

In order to estimate a random utility model, a distribution on the error terms must be specified. Different assumptions about the distribution of the stochastic components within the sample population lead to different discrete choice models. Assuming that all of the e_{in} in the choice set (C_n) are independently and identically distributed with a

Weibull distribution[23] (Freeman, 1993), the following multinomial logit model (MNL), which expresses the probability of individual n choosing alternative i, is formed:

$$\eta_n(i) = \frac{\exp[\mu V_{in}]}{\sum_j \exp[\mu V_{jn}]} \qquad (5.5)$$

Assuming that V_{in} is linear-in-parameters, the functional form of the individual's systematic component of the utility function can be expressed as:

$$V_{in} = \beta_1 X_{1in} + \beta_2 X_{2in} + \ldots + \beta_k X_{kin} \qquad (5.6)$$

where the Xs are variables in the utility function and the βs are coefficients to be estimated. If a single vector of coefficients β that applies to all the utility functions associated with all the alternatives is defined and the scale parameter μ=1, (5.5) can be expressed as:

$$\eta_n(i) = \frac{\exp[\beta' X_{in}]}{\sum_j \exp[\beta' X_{jn}]} \qquad (5.7)$$

where: $\eta_n(i) \equiv$ individual $n's$ choice probability of alternative i;

X_{in} and X_{jn} = vectors describing the attributes of alternative i and j; and

$\beta \equiv$ vector of coefficients.

---

[23] Weibull distribution is also known as the Type I extreme value (Gumbel) distribution and implies that the error terms are logistically distributed (Freeman, 1993).

In experimental design, the decision attributes X_i are termed "factors," and the values that each factor takes in the experiment are called "levels." The functional form expressed in (5.6) is additive, indicating that the factors are independent in their respective effects on consumer utility. It is assumed that interaction effects are negligible and therefore only main effects are assessed. This assumption limits the number of responses on hypothetical choices required from consumers.

5.2.2 Estimation of the Multinomial Logit (MNL) Model

The MNL model described above provides the basis for the experimental choice process. Using this expression for probability of choice, the parameters of the model can then be estimated using maximum likelihood techniques. The maximum likelihood technique finds the vector β from (5.7) such that the logarithm of likelihood is maximized. Furthermore, McFadden (1972) shows that the log of likelihood is concave, so that a unique maximum potentially exists. Using maximum likelihood (ML) estimation yields an estimate of β that is consistent, asymptotically normal and asymptotically efficient (Greene 1997). Moreover, the maximum likelihood estimate of β is useful in that it theoretically implies that the sum of all the choice probabilities for alternative i (summed over all individuals in the sample) equals the actual number in the sample that choose i (Ben-Akiva and Lerman 1985). The estimation procedure will be accomplished using the econometric software program, LIMDEP 7.0 (Greene 1998).

5.2.3 Nested MNL Models

The logit model derived above suffers from the independence from irrelevant alternatives (IIA) property of the conditional logit model. The conditional logit model assumes that this property holds, that is, the ratio of any two choice probabilities depends on the utilities of those two alternatives only and is independent of the utilities of the other alternatives, i.e.

$$P_n(i)/P_n(j) = f(V_{in}, V_{jn}) = e^{V_{in}}/e^{V_{jn}} \qquad (5.8)$$

Since (5.8) may not always hold, the specification needs to be made more realistic. This is done by replacing the assumption of independently distributed error terms with a distribution model that allows for correlation among the unobservable utility components of the other alternatives. The Generalized Extreme Value (GEV) distribution fits this description and gives the choice probabilities the following form (Amemiya, 1985).

$$P_n(5) = \frac{\exp(V_{5n})}{\exp(V_{5n}) + [\sum_{i=1}^{4} \exp(\rho^{-1}V_{in})]^{\rho}}$$

$$P_n(i) = \frac{\exp(\rho^{-1}V_{in})}{[\sum_{i=1}^{4} \exp(\rho^{-1}V_{in})]} \cdot \frac{[\sum_{i=1}^{4} \exp(\rho^{-1}V_{in})]^{\rho}}{(\exp(V_{4n}) + [\sum_{i=1}^{4} \exp(\rho^{-1}V_{in})]^{\rho}} \quad \text{for i=1, 2, 3, 4.} \qquad (5.9)$$

The model in (5.9) is a nested logit model with two branches. Alternatives 1 to 4 (which represent Tanzania, Kenya, South Africa and Other Southern African Countries respectively) fall under one branch while NONE (representing those who indicated they would not choose any of the 4 destinations) falls under the second. We will refer to these branches as HOLIDAY and NOHOLIDAY, respectively.

The underlying assumption of the nested logit models is that the choice of a branch is based on the characteristics of the branch (common utility of the branch) plus the maximum expected utility or log sum of the alternatives under the branch. The IIA property now applies to destinations within the same branch but not to alternatives from two different branches. Researchers have traditionally estimated the model using the sequential estimator (Ben-Akiva and Lerman, 1985) until Greene (1994) developed a full information maximum likelihood (FIML) estimator, which is used to get the coefficient values for the nested models of this study.

5.2.4 Test of Taste Variation

According to Ben-Akiva and Lerman (1985), it is possible to test for taste variations across market segments. This is accomplished by using the likelihood ratio test comprised of the summation of the maximum log likelihoods across the market segments and the log likelihood for the model using the full data set.

If we let N_m denote the sample size of market segment m = 1,..., M, where M is the number of geographical market segments and

$$\sum_{m=1}^{M} N_m = N, \qquad (5.10)$$

where N is the full sample size used in this study, the null hypothesis for no taste variations across the geographical market segments is

$$\beta_1 = \beta_2 = \ldots = \beta_M \tag{5.11}$$

where β_m is the vector of coefficients of market segment m. The likelihood ratio test statistic is given by

$$\lambda_{LR} = -2[L_r(\beta) - \sum_{m=1}^{M} L_u(\beta_m)] \tag{5.12}$$

where $L_r(\beta)$ is the log likelihood for the restricted model that is estimated with the full data set and $L_u(\beta)_m$ is the maximum likelihood of the model estimated with the m^{th} subset of the data. This test statistic is χ^2 distributed with the degrees of freedom equal to the number of restrictions,

$$\sum_{m=1}^{M} N_m - N, \tag{5.13}$$

where N_m is the number of coefficients on the m^{th} market segment model. Rejection of the equality of coefficients across the market segments implies that differences among the market segment coefficients are significantly different and hence tastes do exist among the different market segments and segmentation of data is thus valid.

5.3 SPM Data Collection and Management

5.3.1 Survey Sample

The purpose of this analysis is to examine the trade-offs tourists are willing to make between environmental quality, development, and "traveler attributes." This information helps define the demand for Tanzania and Kenya's tourism and how future tourist development and marketing strategies should proceed. An appropriate choice experiment was developed to mimic the actual choices faced by vacationers in the real world (Adamowicz 1994).

Data for this analysis were obtained using stated preference survey methods. The survey consisted of two parts. The first section asked respondents socio-economic details (age, nationality, profession, and income), their image perception of Tanzania and Kenya, and whether they had previously visited the destinations presented in the choice experiment. The second part involved a choice experiment in which respondents had to choose between four holiday destinations (Tanzania, Kenya, South Africa, and other Southern African countries) or not vacationing at all. Two versions of the survey were used and randomly distributed among tourists arriving in Tanzania and Kenya during the period of September 1999 - April 2000. Face-to-face interviews with tourists on their arrival at the entry points were conducted. However, some respondents, due to time shortage during the interviewing process, asked to take the questionnaires to, and have them filled in, their hotels. These questionnaires were collected at a later date.

5.3.2 Design of Stated Choice Experiment

5.3.2.1 Choice Set

Designing a choice experiment is not an easy task as doing so involves determining a set of decision attributes and levels to represent their variation in the real situation (Adamowicz *et al* 1994). In addition, it involves determining the choice set or the number of alternative destinations from which respondents have to make a decision and ensuring the tasks are not too long or too difficult or lack sufficient realism and credibility (Carson *et al* 1994).

A proper choice experiment (CE) design also defines the combination of the identified levels of all the factors included in the experiment such that they are completely orthogonal between the alternatives. The total number of alternatives that can be defined is a function of both the number of attributes and the number of levels incorporated into the exercise. A CE that includes all factors and all levels is known as a 'full factorial design.' When there are too many factors and levels, respondents may not be able to concentrate on all possible combinations, so a "fractional factorial design," which presents only a selection of all possible combinations to respondents, is more effective. If the number of alternatives specified by this design is still too large, a blocked design can be used in which systematically different exercises are given out to different groups of respondents (Kroes and Sheldon 1988).

Data for the stated choice method were obtained by developing an appropriate SPM choice experiment that mimicked the actual choice faced by tourists in Tanzania and Kenya. The natural reasoning would be to include all these factors in the CE;

however, many studies caution against using too many attributes in a CE (see, for example, Louviere, 1988, Carson et al. 1994, Morley 1994). The suggested number of sites should not exceed four, while the attribute number, as earlier stated, should not exceed eight.

According to travel agents and marketing representatives, Tanzania and Kenya together attract wildlife tourism, with beach tourism being secondary, especially in Tanzania.[24] In addition, the two countries are marketed as exclusive "far away" safari destinations with potential visitors to the region often assessing other African destinations in the same region. Holiday brochures and published statistics were also used to help determine the final choice set for this study. On this basis, the alternative African holiday destinations were identified; these are South Africa (see appendices 3 & 4), Botswana, Zambia and Zimbabwe. The last three were combined and presented as "other Southern African countries" to give a total number of four alternatives. In addition to these four alternative holiday destinations, respondents could also choose not to holiday at these destinations, giving five alternatives in the choice set. This "base" alternative (Louviere 1988) did not have any attribute combinations and is a realistic alternative. Furthermore, inclusion of this alternative allows respondents to indicate that under the circumstances described in the choice set, they would prefer to not holiday at any of these alternatives shown. Carson *et al* (1992) support this alternative since they feel it may enhance task realism by making the set of alternatives more akin to the "typical" holiday decision and "may help estimate market penetration, making it mandatory to consider whether consumers purchase the product" (Carson *et al* 1992).

In addition, this CE design also held the attribute levels of South Africa and "other Southern African country" alternatives constant from choice set to choice set. Doing so was justified on the basis that having more than two alternatives with varying attribute combinations increases the difficulty of the choice task and the statistical design of the CE. Furthermore, these alternatives were given attribute combinations that reflected their actual levels/states, making the task less confusing for the respondent and at the same time delimiting more precisely the possible interpretations of modelling results (Carson *et al* 1992).

Once all the attributes and their levels had been identified, they were combined in such a way that they were orthogonal between alternatives. Adamowicz et al. (1994) showed that when the sample is too large, sampling of the entire factorial in such a way that the smallest orthogonal main effects could be estimated with a reasonable degree of statistical efficiency should be undertaken. A main effects design is one in which only strictly additive variance components can be estimated, assuming that all interactions are zero (Adamowicz et al. 1994). Since the size of the orthogonal main effects was expected to be big, this study blocked them into two versions that were given to two groups of respondents.

5.3.2.2 Attributes and Levels

Relevant variables that influence travellers' choices and relevant ranges of these variables (levels) were identified *a priori* using discussions with travel agents, marketing representatives, scientists and tourism literature. Furthermore, as the number of attributes

---

24 Although beach tourism is very important in Kenya's coast, Tanzania's beach tourism is virtually undeveloped, to the extent that to include it in this study would make the comparison between these two countries unfeasible.

and levels increase so do the difficulty of the task and the number of respondents needed for proper statistical analysis, contributing to the number of attributes that were finally used in this study.

The following variables were identified in a previous study (Chami, 1997) and were included in the survey: travel cost per trip, domestic price level and quality of goods the level could attain, park size, unique wildlife, road quality, and cost/quality of hotel services. In addition, the following variables were added after consultation with officials in the Ministries of Tourism in Tanzania and Kenya: health concerns, quality and value for money of camp facilities, mode of travel, availability of charter flights to the parks, number of animals in a park and park development.

Each attribute had discrete levels that provided measures of attributes affecting the vacationers' enjoyment. In this analysis, the following attributes had four levels: travel cost per trip, domestic price/quality level, cost/quality of hotel services, and mode of travel. The following attributes were assigned three levels: park size and number of animals in the park. Finally, the attributes assigned two levels were unique wildlife, road quality, health concerns, availability of charter flights to the parks, and park development. Admittedly, the sheer number of these attributes would confuse many vacationers; thus, they were divided into two groups with two versions each. The following attributes were included in the first group: travel cost, unique wildlife, park development, local prices, road quality and hotel cost/quality. In the second group, the following attributes were included: park size, health risks, number of animals, mode of travel, charter flights availability, and camping cost/quality. The attributes and corresponding levels used in this analysis are listed in Table 5.1a and Table 5.1 b.

Table 5.1a: Attributes and Levels Used in the Choice Experiment (Group 1)

Attribute	*Levels*	*Description of Discrete Levels*
Travel Cost per Person	Level 1	Below US$2,000
	Level 2	US$2,000-US$3,000
	Level 3	US$3,000-US$4,000
	Level 4	More than US$4,000
Wildlife	Level 1	Unique fauna and flora
	Level 2	No unique fauna and flora
Park Development	Level 1	Low
	Level 2	Heavy
Domestic (local) prices	Level 1	Low and good value for money
	Level 2	Low but poor value for money
	Level 3	High but good value for money
	Level 4	High and poor value for money
Road quality	Level 1	Good
	Level 2	Poor
Hotel Cost/Quality	Level 1	Low cost and good value for money
	Level 2	Low cost but poor value for money
	Level 3	High cost but good value for money
	Level 4	High cost and poor value for money

Table 5.1b: Attributes and Levels Used in the Choice Experiment (Group 2)

Attribute	*Levels*	*Description of Discrete Levels*
Park Size	Level 1	Very Big size
	Level 2	Big Size
	Level 3	Average size
	Level 4	Small size
Health risks	Level 1	High risks
	Level 2	Low risks
Number of Animals	Level 1	Big
	Level 2	Small
Mode of travel	Level 1	Individual with guide
	Level 2	Group with guide
	Level 3	Individual without guide
	Level 4	Group without guide
Charter Flights to Parks	Level 1	Available
	Level 2	Not available
Camping cost/quality	Level 1	Low and good value for money
	Level 2	Low but poor value for money
	Level 3	High but good value for money
	Level 4	High and poor value for money

5.3.2.3 Statistical Design

The purpose of an experimental design is to define the combination of all the levels of all the attributes included in the experiment in such a way that they are completely orthogonal between the alternatives. The statistical design of this choice experiment was based on two alternatives (since three of the five were held constant) with a pair of six attributes and their corresponding levels described in Table 5.1a 5.1b. The combination of attribute levels used in this experiment followed that of McLeod's study (1992) and consisted of sampling from the entire $(2^2 \times 4^4) \times (2^2 \times 4^4) \times (2 \text{ versions})$ factorial. This was done in such a way that all parameters of interest could be estimated with a reasonable degree of statistical efficiency (Adamowicz 1994).

Necessary and sufficient conditions to estimate parameters of MNL can be satisfied by selecting the smallest orthogonal main effects design from this larger factorial.[25] In this case, the smallest orthogonal main effects design for each group consisted of 32 alternatives which were blocked into two versions of 16 choice sets and given to four groups of respondents (two groups for each group of attributes). In addition to a translation of the survey, a glossary detailing the attributes and levels was also used to help respondents complete the choice experiment tasks successfully.

5.3.2.4 Effects Coding

The final stage is effect coding, which is necessary to do because qualitative categorical data can cause statistical interpretation problems and hence need to be transformed so they are usable within an economic and statistical framework (Louviere, 1988). This procedure produces estimates that allow for variation between attribute levels and allows the coefficients to be integrated as marginal utilities associated with the particular level. This procedure is preferred to the 1,0 dummies for a number of reasons. First, they orthogonalize the attribute effects to the constant, whereas the 1, 0 dummies confound the alternative-specific constant with the effects of interest. Second, effect codes contrast the parameter estimates with one of the levels rather than with the constant as 1, 0 dummies do. Finally, effect codes define interactions that are orthogonal to their respective main effects and other estimable main effects (Adamowicz et al. 1994); the 1, 0 dummies do not.

To apply effects coding, researchers start by subtracting one level from each attribute and creating variables from the subsequent levels. For example, attributes with four levels are reduced to three levels, those with three levels are reduced to two levels, and so on. The omitted case is the base case, which is assigned –1 for all columns representing the remaining levels. Each column contains a 1 for the levels represented by the column and a –1 for the base. These parameters are interpreted as follows: the base level takes the utility of the negative sum of the other levels, whereas each of the represented levels takes the utility associated with the coefficient. Some of the variables created by attributes from Tables 5.1a and 5.1b are listed in Table 5.2 with their effects coding.

The SPM data were collected in Tanzania and Kenya from September 1999 to April 2000. The survey was randomly distributed among tourists arriving in Tanzania and Kenya during the period. Since the pre-survey approach whereby the author gave the

---

25 "A main effects design is one in which only strictly additive variance components can be estimated, assuming that all interactions equal zero" (Adamowicz *et al*, 1994; p.278).

tourists the questionnaires to answer on their own yielded a low response rate of 33% (Chami, 1997) face-to-face interviews with tourists on their arrival were conducted after the initial responses were tested in Tanzania in August, 1999.

Table 5.2: Some Variables with Effects Coding

Variable Name	Effects Coding	
TCOST$_{LOW}$	If Travel Cost <$2,000	Then TCOST$_{LOW}$ = 1
	If ($2,000≤TC≤$3,000) or ($3,000≤TC≤$4,000)	Then TCOST$_{LOW}$ = 0
	If Travel Cost>$4,000*	Then TCOST$_{LOW}$ = -1
TCOST$_{MID\text{-}LOW}$	If Travel Cost = ($2,000≤TC≤$3,000)	Then TCOST$_{MID\text{-}LOW}$ = 1
	If (TC <$2,000) or ($3,000≤TC≤$4,000)	Then TCOST$_{MID\text{-}LOW}$ = 0
	If Travel Cost>$4,000*	Then TCOST$_{MID\text{-}LOW}$ = -1
TCOST$_{MID\text{-}HIGH}$	If Travel Cost = ($3,000≤TC≤$4,000)	Then TCOST$_{MID\text{-}HIGH}$ = 1
	If (TC <$2,000) or ($2,000≤TC≤$3,000)	Then TCOST$_{MID\text{-}HIGH}$ = 0
	If Travel Cost>$4,000*	Then TCOST$_{MID\text{-}HIGH}$ = -1
TCOST$_{HIGH}$	If Travel Cost>$4,000	Then TCOST$_{HIGH}$ = 1
	If ($2,000≤TC≤$3,000) or ($3,000≤TC≤$4,000)	Then TCOST$_{HIGH}$ = 0
	If Travel Cost = <$2,000*	Then TCOST$_{HIGH}$ = -1
PRICE$_{LG}$	If Prices = Low/Good Value	Then DOMESTIC$_{LG}$ = 1
	If Prices = (Low/Poor Value) or (High/Good Value)	Then DOMESTIC$_{LG}$ = 0
	If Prices = High/Poor Value*	Then DOMESTIC$_{LG}$ = -1
PRICE$_{LP}$	If Prices = Low/Poor Value	Then DOMESTIC$_{LP}$ = 1
	If Prices =(Low/Good Value) or (High/Good Value)	Then DOMESTIC$_{LP}$ = 0
	If Prices = High/Poor Value*	Then DOMESTIC$_{LP}$ = -1
PRICE$_{HG}$	If Prices = High/Good Value	Then DOMESTIC$_{HG}$ = 1
	If Prices = (Low/Poor Value) or (Low/Good Value)	Then DOMESTIC$_{HG}$ = 0
	If Prices = High/Poor Value*	Then DOMESTIC$_{HG}$ = -1
WILDLIFE	If Wildlife = Level 1	Then WILDLIFE = 1
	If Wildlife = Level 2*	Then WILDLIFE = -1
PARKDEV	If Park Development = Level 1	Then PARKDEV =1
	If Park Development = Level 2	Then PARKDEV =-1

*Base case using effects coding

5.4 Conclusion

This chapter has presented the random utility theory, invocation of which helps in estimation of non-market tourism demand. The Chapter also presented the multinomial logit model, an approach to test for taste variation across markets, and SPM data management techniques. The following chapter presents results of the model.

CHAPTER 6: SPM RESULTS

6.0 Introduction

This chapter presents the results of the SPM model. In Section 6.1, socioeconomic characteristics of respondents are presented. This is followed by the estimation results from the survey data in Section 6.2. Lastly, Section 6.3 presents results of a test on taste variation across markets.

6.1 Socio-Economic Characteristics

6.1.1 Survey Response Rate

In total, 800 surveys were handed out with a response rate of 55.88%. The final response rates used for this study are shown in Table 6.1 below. A total of 800 questionnaires divided into two versions of 400 each were administered to tourists at the points of entry to Tanzania and Kenya, mainly airports. 246 tourists responded to the first version, about a 62 percent response rate. The second version, with 201 responses, had a 50 percent response rate. Thus, in total, 447 tourists responded, which is about 56 percent response rate.

Table 6.1: Survey Response Rate

	Group One	Group Two	Total
Questionnaires Administered	400	400	800
Responses	246	201	447
Response Rate (%)	61.5	50.3	55.88
Refusals (%)	38.5	49.75	44.12

6.1.2 Prior Visits to Tanzania or Kenya

Most tourists reported that it was their first time to visit either Tanzania or Kenya. Of the 447 tourists, only 75 tourists or about 17 percent had visited Tanzania before, indicating that 372 tourists were either visiting Tanzania for the first time or had never visited at all (for those who responded from Kenya). As for Kenya, the number was even smaller: only 52 reported having visited Kenya before they were interviewed; 395 were either making their first visit, or they had not visited Kenya at all during the time they were being interviewed.

Table 6.2: Have You Been to Tanzania/Kenya Before?

	Yes	%	No	%	Total	%
Tanzania	75	16.8	372	83.2	447	100
Kenya	52	11.6	395	88.4	447	100

6.1.3 Age of Respondents

The respondents included tourists aged between 18 and over 70. Most of those interviewed fall between 21 and 50 years. The age group with the greatest number of respondents was tourists between 31 and 40. This group represented 40 percent of the respondents. It was followed by the groups of 21-30 years (97 respondents or 22 percent

Table 6.3: Age of Respondents

Age Group	Responses	Percentage
18- 20	39	8.72
21-30	97	21.70
31-40	179	40.05
41-50	83	18.57
51-60	43	9.62
60-70	5	1.1
70+	1	0.02
Total	447	99.78

of the respondents) and 41-50 years (with 83 respondents, or 19 percent). The younger or the older the group, the smaller the number of respondents, as can be seen in Table 7.14.

6.1.4 Nationalities of Respondents

Germans formed the highest number of respondents (Table 6.4). Of the total number of 447 respondents, they comprised 59, making up 13 percent. They were followed by the British (54 respondents or 12 percent); Americans (48 respondents or about 11 percent); Canadians (38 or nearly nine percent); and Australians (34 or about eight percent). Others included the Swedish (over five percent); the Swiss (nearly five percent); the Spanish and Norwegians (over four percent each); Belgians (over three percent); the Finnish and Italians (over two percent each); and Russians (two percent). The remaining nationals of 9 countries, mainly from Asia and Africa, made up 77 respondents or over 17 percent of the total.

Table 6.4: Nationalities of Respondents

Nationality	Responses	Percentage
German	67	15.0
British	54	12.1
American	48	10.7
Canadian	38	8.5
Australian	34	7.6
Swedish	24	5.4
Swiss	22	4.9
South African	21	4.7
Spanish	19	4.3
Norwegian	19	4.3
Belgian	15	3.4
Finnish	11	2.5
Italian	10	2.1
Russian	9	2.0
Other	56	12.5
Total	447	100

6.1.5 Respondents' Household Income

Respondents were asked to indicate their total household income within a $15,000 range, as this method tends to generate a higher response rate (Barbier, 1989). The mode and median income is 52,500, which is a mid-point of the class with the greatest number of respondents and also where the midpoint of the sample lies (between US$45,000 and US$60,000). While this figure serves to show the mode and median household income for this sample, it should not be taken as mode/median income for all the tourists going to Tanzania and Kenya, as this interview was conducted only in some months of the year (November-April). Even if the survey had gone on for a full year, it would still not be correct to assume that the mode/median income thus calculated is a representative of all the tourists, some of whom may visit after a long lapse of time. A reliable representative figure would require data covering many years.

Table 6.5: Income Level (Income in US$)

Income Group	Responses	Percentage
Under 15,000	22	4.9
15,001-30,000	29	6.4
30,001-45,000	42	9.3
45,001-60,000	225	50.3
60,001-75,000	74	16.6
75,001-90,000	8	1.8
90,001-105,000	15	3.3
105,001+	32	7.2
Total	447	99.8

6.1.6 Length of Visit

Many respondents indicated that they would stay for more than two weeks (147 or 33 percent). However, distribution is even, with a considerable number (113 respondents or 25 percent) indicating that they would spend only a week, 109 (24 percent) 10 days, and 78 (17 percent) for two weeks.

Table 6.6: Intended Time to Spend on Vacation

Number of Days	Response	Percentage
Seven days (one week)	113	25.3
10 days	109	24.4
Two weeks	78	17.4
More than 2 weeks	147	32.9
TOTAL	447	100

6.1.7 Motivating Factors to Visit

Most respondents were motivated by a combination of factors rather than a single one. 80 (18 percent) respondents were attracted only by nature tourism, 27 (six percent)

Table 6.7: What Motivated Tourists to Visit?

Type of Motivation	Responses	Percentage
Nature Tourism Only	80	17.9
Beach Tourism Only	27	6.0
Cultural Tourism Only	11	2.5
Nature, Beach, & Cultural Tourism Combined	329	73.6
Total	447	100

were attracted only by beach tourism and 11 (two and half percent) were attracted only by cultural tourism. In contrast, 329 respondents, about 74 percent, said that they were attracted by a combination of the three types of tourism.

6.1.8 Occupation of Respondents

Most of the respondents, as Table 6.8 shows, hold either professional or technical positions (309 or 69 percent). Others are in management and administration (49 or over nine percent), sales (28 or over six percent) and clerical and secretarial jobs (28 or nearly six percent).

Table 6.8: Occupation of Respondents

Occupation	Responses	Percentage
Professional and technical occupations	309	69.1
Managers and administrators	42	9.4
Sales	28	6.3
Clerical and secretarial occupations	26	5.8
Plant and machine operators	9	2.0
Craft and related occupations	7	1.6
Personal and protective services occupations	3	0.7
Other occupations	23	5.1
Total	447	100

6.2 Results of Estimated Models

6.2.1 Market Segmentation

The estimation segments the respondents in terms of their broad origins. This market segmentation in the tourism area was first examined by Johanson and Peate (1976) and has since been applied extensively in the tourism literature. The latter suggests that people from different origins will have different parameter estimates (Pizam and Sussmann, 1995). Hence, in order to analyze the tourism market more precisely, the survey sample was segmented based on broad geographical origins: Europeans, Americans and a composite of the remaining markets. As a result, three models for both the MNL and NMNL models (European, American and the composite [which we call "other tourism markets [OTMs]]") with identical utility specifications were estimated.

Using LIMDEP, version 7.0 (Greene, 1997), the coefficients were estimated by modeling the dependent variable, destination choice, against the attribute levels mentioned in Chapter 5 and four alternative specific constants (ASC1, ASC2, ASC3, ASC4) for Tanzania, Kenya, South Africa and other Southern African countries respectively. These constants capture the utility that is not explained by the differences in attribute levels. That is, they reflect the difference in utility of alternative *i* from that of *j* when "all else is constant." Furthermore, they can also be used as a crude measure for testing brand effect. In a tourism context, the latter can be defined as a destination being continually chosen by tourists regardless of whether or not the attribute qualities change at that destination; it is called an "image effect."

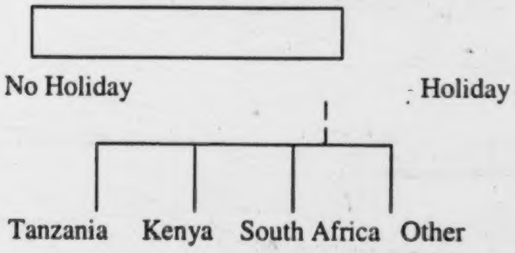
The socio-economic variable INCOME was also incorporated into these models. Since income is a demographic variable and has no variation across alternatives, it was modeled as a choice specific variable. That is, income was incorporated separately in each utility function for each alternative except the base. Hence, four income coefficients are reported in the results for Tanzania, Kenya, South Africa, and other South African countries. These income coefficients represent the effect of income on the probability of choosing Tanzania, Kenya, South Africa and other Southern African destinations respectively relative to the base case.

In Chapter 5, it was mentioned that the estimation of the models requires that one level be dropped from each attribute. The dropped level represents the base case, with the signs of the included levels depending on the dropped level since they are relative to it. In Group 1, level 2 was dropped in the "wildlife" and "road quality" variables, while level 3 was dropped in the "park development" variable. In the same group, level 4 was dropped in the "domestic prices," "hotel cost/quality," and the "travel cost" variables. In Group 2, level 2 was dropped in the "health risks" and "charter flights to the parks" variables, while level 3 was dropped in the "number of animals" variable. Within the same group, level 4 was dropped in the "park size," "mode of travel" and "camping costs/quality" variables.

6.2.2 Test for IIA Property

As explained in Chapter 5, the IIA property needs to be tested to establish whether or not the nested MNL models provide more reliable information that the usual conditional logit models do. The nested logit models in this analysis had two levels: first, the decision to holiday or not holiday and second, the choice to destination. The NMNL models for the two levels are depicted in Figure 6.1 below.

Figure 6.1: Depiction of the Nested Logit Model for Holiday Destination Choice



Testing for the violation of the IIA property was conducted by testing if the inclusive values (HOLIDAY) in the NMNL models were significantly different from one. 26

Inclusive values connect the levels of the hierarchy in the decision tree with each other in the sense that the attributes of the lower level attributes influence the choice at higher levels. That is, it is possible that the decision to holiday or stay at home (or to go to an alternate destination not shown in the choice set) will be influenced by the utilities associated with destinations that can be chosen later. Since all the inclusive values were found to be significant, the null hypothesis of the IIA property is rejected (is shown to be violated) in all models; thus, only the nested multinomial logit models results will be reported and discussed here to avoid congestion and to enable an assessment of the sensitivity of the parameters of the nesting structure. The results of the non-nested multinomial logit models are reported as appendices 1 and 2.

The corresponding χ^2 statistics for European, American and OTM models in Group One are 299.29, 276.98 and 180.132, respectively. In the second group, the χ^2 statistics are 656.32, 789.024, and 501.298, respectively. All these values are in the critical value range (and hence, using the Small and Hsiao approach, the null hypothesis of the IIA property is rejected in all models[27]).

---

26 Alternatively, Small and Hsiao (1982) and Hausman and McFadden (1984) proposed other tests based on Chi-square statistic.

27 With 20 degrees of freedom, the 5% level critical Chi-Square value is 31.41

6.2.2.1 The Goodness of the Fit of the Model

Table 6.9 and 6.10 present results of the segmented nested multinomial logit (NMNL) models on the data covering Group One and Two, respectively. Each of the reported coefficients represents the marginal utility associated with that attribute level.

The R^2 (also called the McFadden R^2 in logit models) of the European and North American models in Table 6.9 are almost similar, at 0.0609 and 0.0598, respectively. The composite model has a higher value of 0.1454. In Table 6.10, the values are 0.16091, 0.17021 and 0.14334 for the European, North American and OTMs models, respectively. The R^2 is a summary statistic that indicates the goodness of fit of a model. It is generally not high in logit models, tending to be lower than the traditional R^2 measure (Ben-Akiva and Lerman 1985).

Table 6.9: Estimation Coefficients of Segmented Markets for Group One

Attribute	Description	European	N. American	OTMs
		Coefficient Standard error T-Statistic	Coefficient Standard error T-Statistic	Coefficient Standard error T-Statistic
ASCs	ASC$_1$ (Tanzania)	1.701 0.912 1.865	1.012 0.762 1.328	2.173* 0.697 3.118
	ASC$_2$ (Kenya)	2.319* 1.002 2.314	2.272* 0.801 2.836	1.950* 0.798 2.444
	ASC$_3$ (South Africa)	-1.734* 0.829 -2.092	-0.213 0.314 -0.678	2.765* 1.098 2.518
	ASC$_4$ (Other)	0.368 0.190 1.937	0.449 0.297 1.512	0.176 0.129 1.364
Travel Cost	Below $2000	0.421* 0.056 7.489	0.396* 0.049 8.082	0.521* 0.072 7.236
	$2000-$3000	0.030 0.047 0.635	0.047 0.081 0.580	0.105 0.075 1.400
	$3000-$4000	-0.090 0.060 -1.496	-0.081 0.053 -1.528	-0.054 0.078 -0.692
	Above $4000	-0.361*	-0.362*	0.572*
Wildlife	Unique	0.213* 0.080 2.663	0.118* 0.041 2.878	0.378* 0.098 3.857
Park Development	Low	0.631* 0.276 2.286	0.541* 0.199 2.719	0.154 0.219 0.703
	Moderate	0.167* 0.070 2.386	0.682* 0.297 2.296	1.045* 0.432 2.419
	Heavy	-0.798*	-1.223*	-1.199*

Table 6.9 (continued)

Attribute	Description	European	N. American	OTMs
		Coefficient **Standard error** **T-Statistic**	**Coefficient** **Standard error** **T-Statistic**	**Coefficient** **Standard error** **T-Statistic**
Local Prices	Low/Good Value	-1.655* 0.754 -2.195	-1.871* 0.602 -3.108	0.921* 0.376 2.449
	Low/ Poor Value	1.587* 0.695 2.283	1.815* 0.798 2.274	1.723* 0.320 5.384
	High/ Good Value	0.284* 0.097 2.928	-0.373 0.226 -1.650	-0.259 0.189 -1.370
	High/ Poor Value	-0.216	0.429	-2.385*
Road	Good	0.632* 0.126 5.016	0.598* 0.190 3.147	0.674* 0.213 3.164
Hotel Costs	Low/Good Value	1.504* 0.409 3.677	1.954* 0.712 2.744	1.966* 0.675 2.913
	Low/ Poor Value	-0.587* 0.223 -2.632	-0.234 0.402 -0.582	-0.292 0.321 -0.910
	High/ Good Value	-0.459* 0.199 -2.307	-0.085 0.102 -0.833	-1.674* 0.764 -2.191
	High/ Poor Value	-0.458*	-1.635*	-0.101
Income	Income$_1$ (Tanzania)	0.091 0.102 0.892	0.087 0.090 0.966	0.108 0.296 0.365
	Income$_2$ (Kenya)	0.326* 0.102 3.196	0.091 0.128 0.711	0.254* 0.092 2.761
	Income$_3$ (South Africa)	0.302* 0.079 3.823	0.372* 0.101 3.683	0.456* 0.097 4.701
	Income$_4$ (Other)	0.125 0.115 1.087	0.103 0.292 0.353	0.053 0.177 0.299

Table 6.9 (continued)

Attribute	Description	European	N. American	OTMs
Summary Statistics	L (β)	-2068.14	-2061.987	-1503.192
	McFadden R^2	0.0609	0.0598	0.1476
	Adjusted R^2	0.0599	0.0562	0.1454
	χ^2	299.29	276.98	180.132
	# of observations	6840	6800	4800
IIA Test	Inclusive value parameter	0.291* 0.078 3.731	0.324* 0.095 3.411	0.198* 0.082 2.415

*Significant at $\alpha = 0.05$ level

NB: Recall that the coefficient on the base case can be calculated by summing the negative of all the coefficients corresponding to the remaining levels of the attribute

Table 6.10: Estimated Coefficients of Segmented Models (Group 2)

Attribute	Description	European	N. American	OTMs
		Coefficient Standard error T-Statistic	Coefficient Standard error T-Statistic	Coefficient Standard error T-Statistic
ASCs	ASC$_1$ (Tanzania)	1.146 1.099 1.043	1.164 1.201 0.969	1.507* 0.701 2.150
	ASC$_2$ (Kenya)	1.320* 0.498 2.651	1.739* 0.504 3.450	0.342 0.270 1.267
	ASC$_3$ (South Africa)	1.463* 0.391 3.742	2.095* 0.709 2.955	2.133* 0.675 3.160
	ASC$_4$ (Other)	-3.801* 0.907 -4.191	-3.715* 1.002 -3.708	-3.132* 0.980 -3.196
Park Size	Very Big	-1.106* 0.421 -2.627	-1.123* 0.392 2.865	-0.481* 0.093 -5.172
	Big	0.430 0.394 1.091	0.146 0.187 0.781	-0.259 0.199 -1.302
	Average	0.534* 0.203 2.631	0.603* 0.197 3.061	0.681* 0.211 3.227
	Small	0.142	0.374	0.141
Health Risks	High	0.022 0.165 0.133	-0.336* 0.140 -2.400	0.022 0.016 1.375
Animal Numbers	Small	-0.416 0.317 -1.312	-0.614* 0.296 -2.074	-1.190* 0.453 -2.627
	Average	-0.781 0.459 -1.702	-0.727* 0.361 -2.014	-0.377 0.203 -1.857
	Big	1.197*	1.341*	1.567*

Significant at $\alpha = 0.05$ level

Table 6.10 continued

Attribute	Description	European	N. American	OTMs
		Coefficient **Standard error** **T-statistic**	**Coefficient** **Standard error** **T-statistic**	**Coefficient** **Standard error** **T-statistic**
Mode of Travel	Group with guide	3.108* 0.676 4.598	2.898* 0.707 4.099	2.561* 0.497 5.153
	Individual with guide	1.301 0.871 1.494	-0.493 0.321 -1.536	-0.906 0.769 -1.178
	Group without guide	-0.712* 0.304 -2.342	-2.217* 1.009 -2.197	-0.612* 0.197 -3.107
	Individual without guide	-3.697*	-0.188*	-1.043*
Direct Flights to Parks	Exist	0.522* 0.260 2.008	-0.215 0.139 -1.547	-0.195 0.221 -0.882
Camp costs	Low Cost/Good Value	-1.525 0.841 -1.813	-1.921 1.036 -1.854	-2.936* 0.602 -4.877
	Low Cost/Poor Value	0.698 0.401 1.741	0.613 0.398 1.540	0.602 0.720 0.836
	High Cost/Good Value	1.713* 0.792 2.163	1.743* 0.808 2.157	1.657* 0.697 2.377
	High Cost/Poor Value	-0.886*	-0.435	0.667

* Significant at $\alpha = 0.05$ level

Table 6.10 continued

Attribute	Description	European	N. American	OTMs
		Coefficient Standard error T-statistic	**Coefficient Standard error T-statistic**	**Coefficient Standard error T-statistic**
Income	Income$_1$ (Tanzania)	0.098 0.058 1.690	0.053 0.032 1.656	-0.107 0.097 1.103
	Income$_2$ (Kenya)	0.321* 0.090 3.567	0.163* 0.045 3.622	0.008 0.012 0.667
	Income$_3$ (South Africa)	0.121* 0.057 2.123	0.178* 0.043 4.140	0.179* 0.051 3.510
	Income$_4$ (Other)	0.061 0039 1.564	0.087 0.104 0.837	0.192 0.112 1.714
Summary Statistics	$L(\beta)$	-1738.761	-1867.765	-1497.985
	McFadden R^2	0.16091	0.17021	0.14334
	Adjusted R^2	0.15312	0.16998	0.13989
	χ^2	656.32	789.0244	501.298
	# of observations	6475	7045	5520
IIA Test	Inclusive parameter value	0.867* 0.296 2.929	0.701* 0.197 3.558	0.362* 0.089 4.067

* Significant at $\alpha = 0.05$ level

6.2.2.2 The "Image" Effect

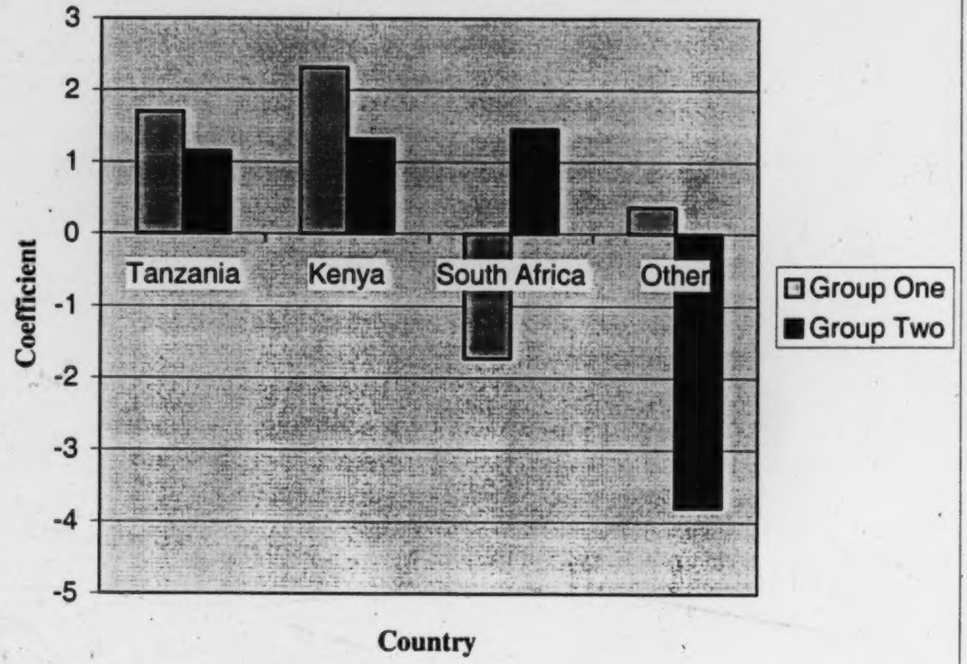
The alternative specific constant related to Kenya (ASC_2) is found to be both positive and significant in almost all models of both groups. In contrast, Tanzania's ASC is insignificant in most models. The significance of the ASC coefficients indicates that the reasons for choosing a destination are only partly explained by the differences in attribute levels, and this applies more to Kenya than Tanzania. Omission of relevant variables is often used to explain such values. However, in this analysis, we can attribute an alternative explanation to brand effect, which is analogous to image effect in tourism literature. It implies that respondents choose a particular destination based on the name of the destination and the image it has regardless of varying attribute levels.

Some of the coefficients of the alternative specific constants related to South Africa (ASC_3) and Other Southern African countries (ASC_4) are negative and significant. This may be surprising since one would expect a destination such as South Africa to be better known to Europeans and North Americans (who make up the majority of the respondents) than Kenya or Tanzania would. However, this response is not unusual, considering that the survey sample did not consist of visitors who were visiting South Africa. However, in all models of Group Two and in the other tourism markets (OTMs) model of Group One, South Africa's image is shown to be positive and significant. Since respondents from South Africa were 27.3 per cent of all respondents in the OTM segment,[28] this author suspected that their presence may have influenced the results in the first group. Re-estimation of the model after South African

---

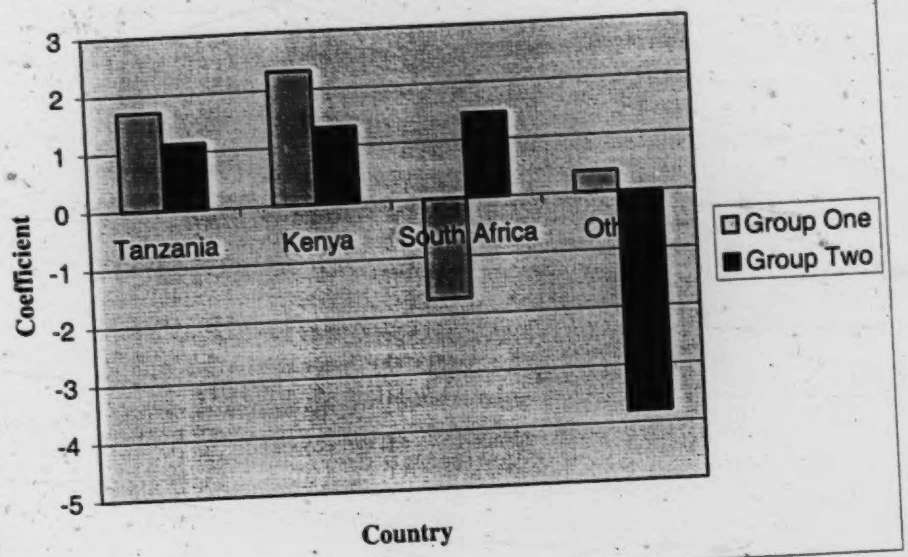
[28] South Africans are 21 out of 77 respondents in the OTMs segment

Fig. 6.2(a): The "Image Effect" of Tourist Destinations in the European Model



respondents were omitted from the data sample showed that the image effect was negative and significant, confirming this suspicion. However, exclusion of South Africans in the second group did not have similar effect. Figures 6.2 (a-c) illustrate the different "images" of the destination countries among the tourists surveyed in Groups One and Two.

Fig.6.2 (b): The "Image Effect" of Tourist Destinations in the American Model



6.2.2.3 Cost/Local Price Effects

Cost and/or domestic price levels affect the choice of whether or not to visit a destination. The coefficients of the attributes of the "travel cost" variable indicate that visitation rate increases when travel cost is less than $2000; tourists are indifferent to travel costs when they lie between $2,000 and $4,000; and they reduce visitation rate when the travel cost exceeds $4,000 (fig. 6.3). This is as postulated by consumer demand theory: tourists are less likely to choose a destination if the cost of travelling to that destination increases.

Fig. 6.2 (c): The "Image Effect" of Tourist Destinations in the OTM Model

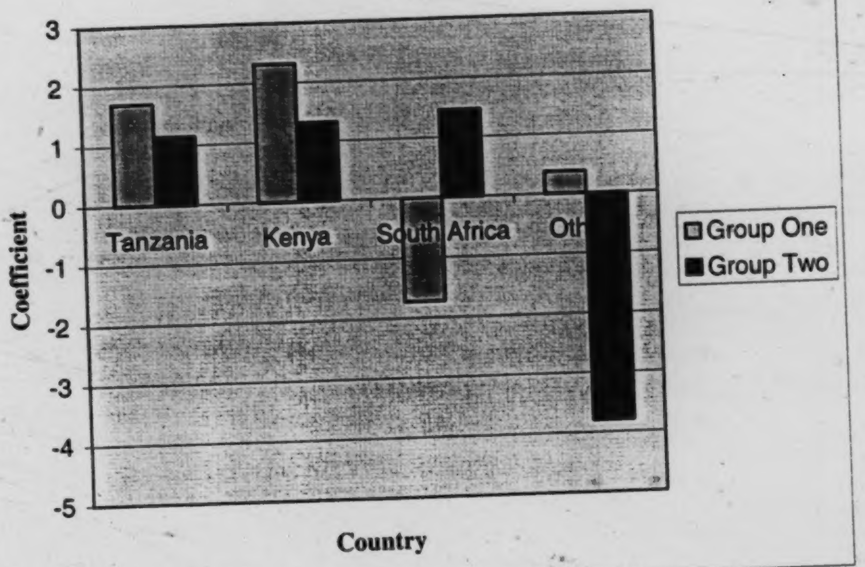
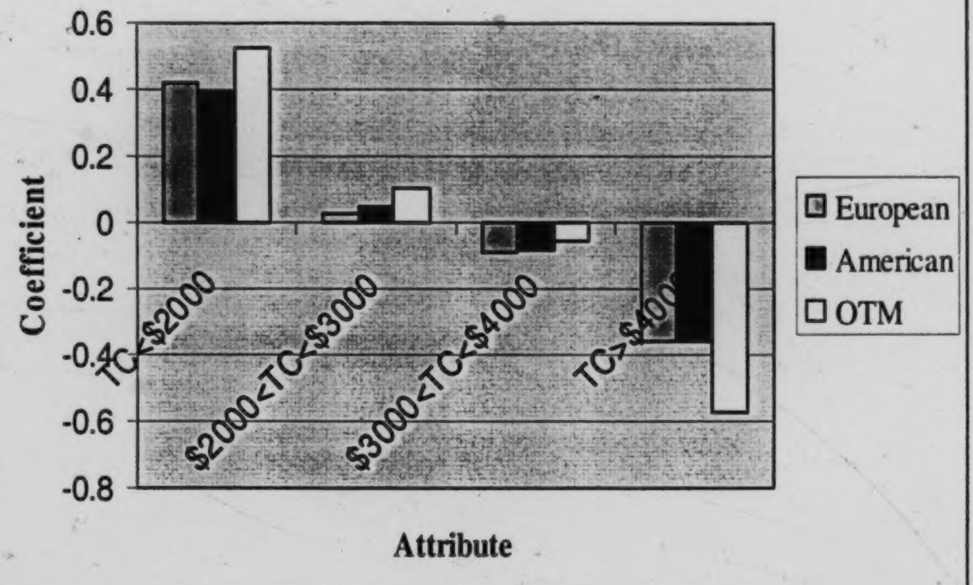
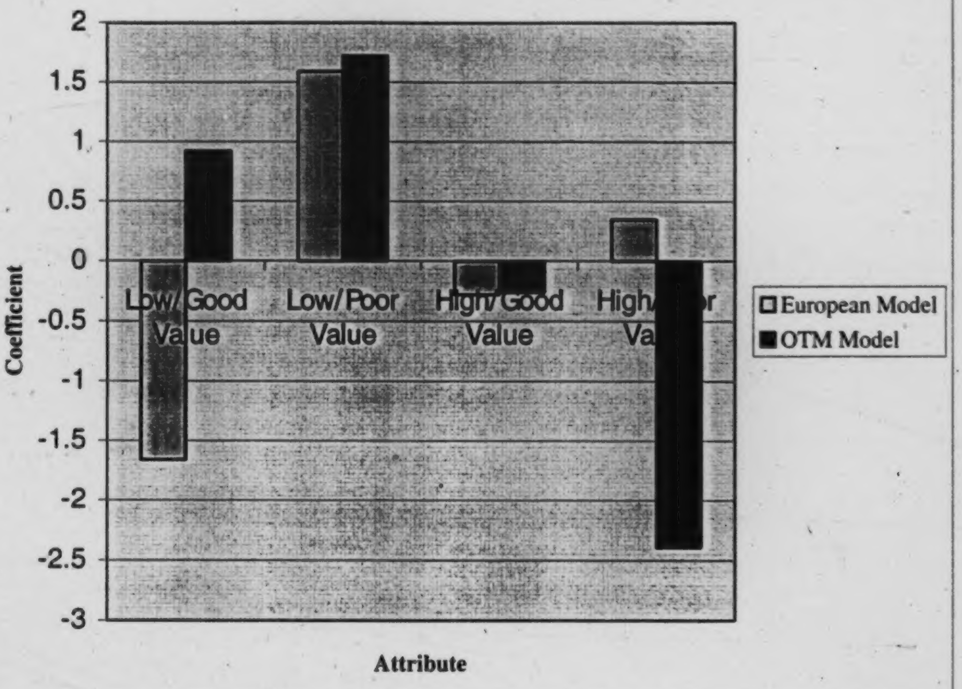


Fig 6.3: The Travel Cost (TC) Impact on the Probability of Choice



The signs on and the significance of the coefficients of the attributes of the "local price" variable are of some interest. The coefficients on the "low prices/ good value" attribute are negative and significant in the European and North American models, but positive and significant in the OTMs model. One would expect tourists to choose a destination with this combination, but in this study, the majority of respondents seem not

Fig. 6.4: The Impact of Local Cost and Quality on Probability of Choice



to indicate their preference for it. Instead, respondents indicated that the probability of choosing a destination decreases with a "high price/good value" attribute. The coefficients on this variable are negative and significant. Tourists seem to favour a "low price/low value" attribute, as all of its coefficients are both positive and significant. Multicollinearity was suspected as a source of this unexpected behaviour, so several tests were done whereby some variables were removed from the estimation one after another to see the effect on the "local price/quality" variable. It was found out that when the "travel cost" variable was removed, the "local price" variable behaved 'normally,' in that the "low price/good quality" attribute was preferred to the rest, implying that the two variables are correlated. This is not surprising since higher local prices are likely to increase the travel cost, especially if tourists will need to traverse a large tract of land.

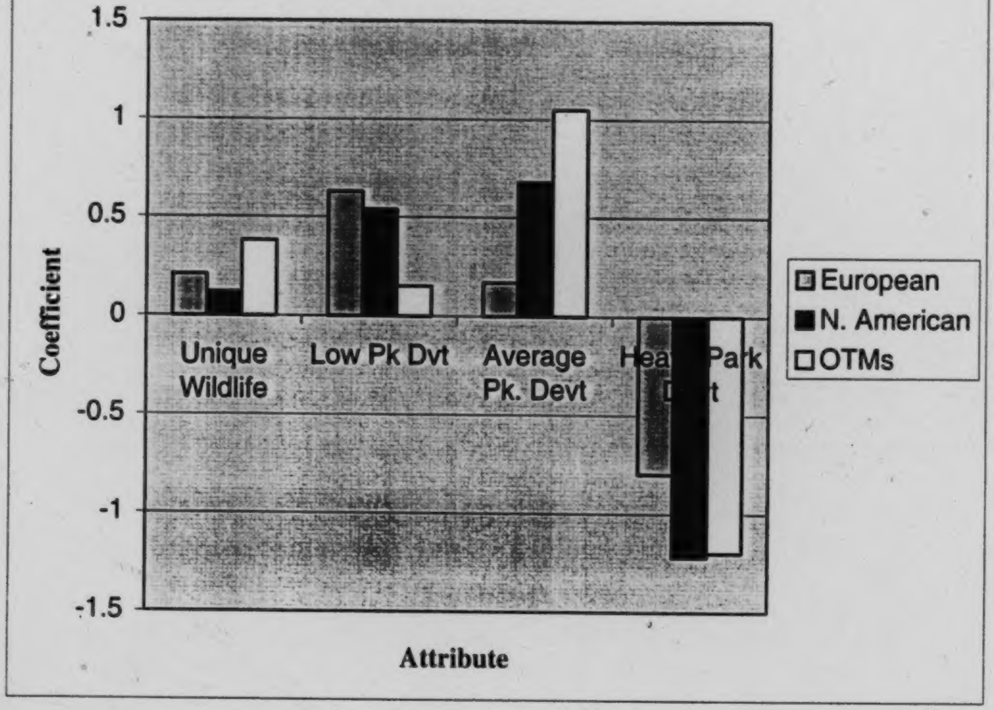
6.2.2.4 Unique Wildlife Effect

The wildlife variable exhibited a positive correlation between itself and the probability of choice in all models. That is, the more the wildlife in Tanzania and Kenya becomes unique, the more the utility (or enjoyment) of a tourist's holiday and hence the probability of choosing these destinations.

6.2.2.5 Park Development Effect

The "low park development" and "moderate park development" attributes have positive coefficients, most of which are also statistically significant. Of the three markets, the Europeans seem to prefer only a park with minimum development, the North Americans prefer both low and moderate development, while the other tourist markets (OTM) tourists prefer only moderate development. The "heavy park development" coefficients are all negative and significant, implying that excessive construction in the parks reduces the probability of choice.

Fig. 6.5: The Impact of Unique Wildlife and Park Development on the Probability of Choice



6.2.2.6 The Road Quality Effect

The “good quality” attribute of the “road” variable is positive and significant in all models, as one would expect.

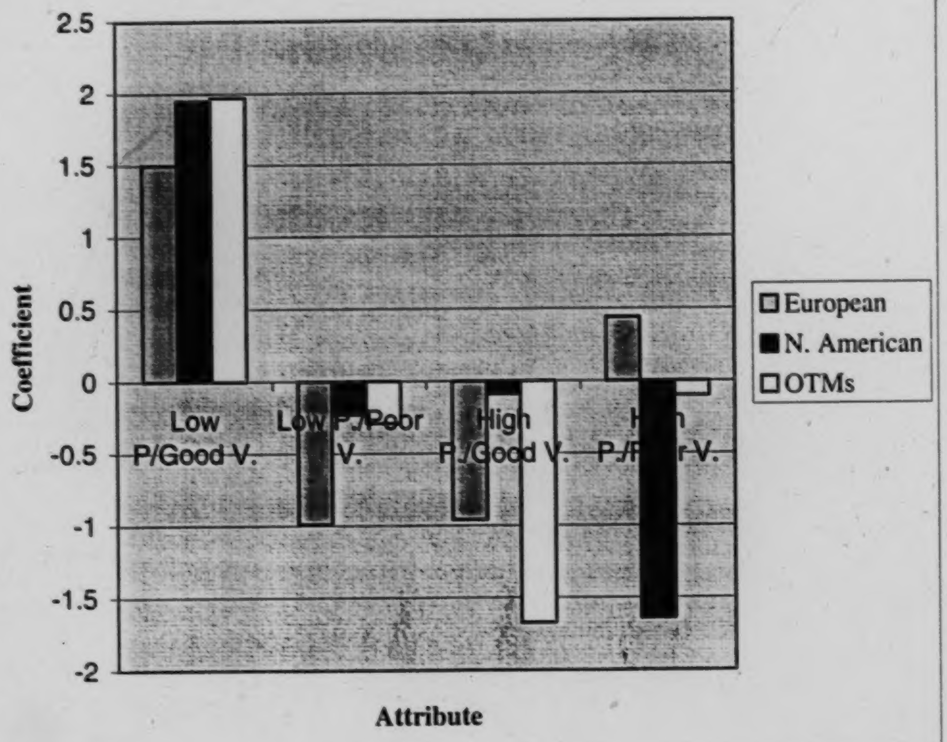
6.2.2.7 Hotel Costs/Value Effect

Unlike the “local prices” variable case, the “hotel costs/quality” variable has results that are more in agreement with theory. First, the “low cost/good value” attribute is positive and significant in all models. Secondly, the “low cost/poor value” attribute,

6.2.2.7 Hotel Costs/Value Effect

Unlike the "local prices" variable case, the "hotel costs/quality" variable has results that are more in agreement with theory. First, the "low cost/good value" attribute is positive and significant in all models. Secondly, the "low cost/poor value" attribute, though significant in the European model, is negative in all models, implying that the probability of choice either decreases or is unaffected by this combination. Finally, the "high cost/good value" attribute is negative in all models and significant in the European and OTM models, implying that the probability of choice for majority of tourists decreases with this combination also. It can be reasoned that where accommodation is concerned, tourists would behave this way for safety and health reasons. Furthermore, they do not think the idea of a "high quality" hotel in a developing country to be untenable, as tourist hotels throughout the world are required to follow specific standards.

Fig. 6.6: Hotel Prices/Quality and Probability of Choice



6.2.2.8 Park Size Effect

Results indicate that there exists a positive correlation between the average park size and the probabilities of choice as coefficients of this attribute were all positively significant. Whilst the probabilities of choice are not affected by a "big" or "small" park size, they are negatively correlated with a "very big" park size. Thus, although tourists feel that a "small" park does not affect their choice probability, they may also feel that they cannot view most of a "very big" park. The consensus seems to be choosing an average-size park.

6.2.2.9 Health Risks

With the exception of the North American model (where high health risks are shown to negatively affect the probability of choice), the study did not find a significant correlation between health risks and changes in the probability of choice. Given that most of the respondents were from developed countries with highly developed health care systems, this response was not expected; however, it may be the case that tourists believe that the preventive measures they take before making a choice to visit are sufficient.

6.2.2.10 Number of Animals

A negative correlation exists between the "small number" of animals and the choice probability, with significant North American and OTM coefficients. Results also indicate a weakly negative correlation between choice and average number, but a positive correlation with big animal numbers in all models.

6.2.2.11 Mode of Travel

Tourists were asked to indicate how the four modes of visiting the parks in Tanzania and Kenya would affect their probability of choice. These modes were specified as " group with guide," "individual with guide," "group without guide" and "individual without guide."

Results indicate that the "group with guide" attribute positively affects the probability of choice across the markets. Whereas the "individual with guide" attribute is insignificant in all models, the other attributes are negatively and significantly correlated with the probability of choice. This makes sense, as for safety (and sometimes economical) reasons, tourists would prefer to go in a group and with someone (guide) who knows the parks and the animal behaviour, and also who will show them the most in as short time as possible.

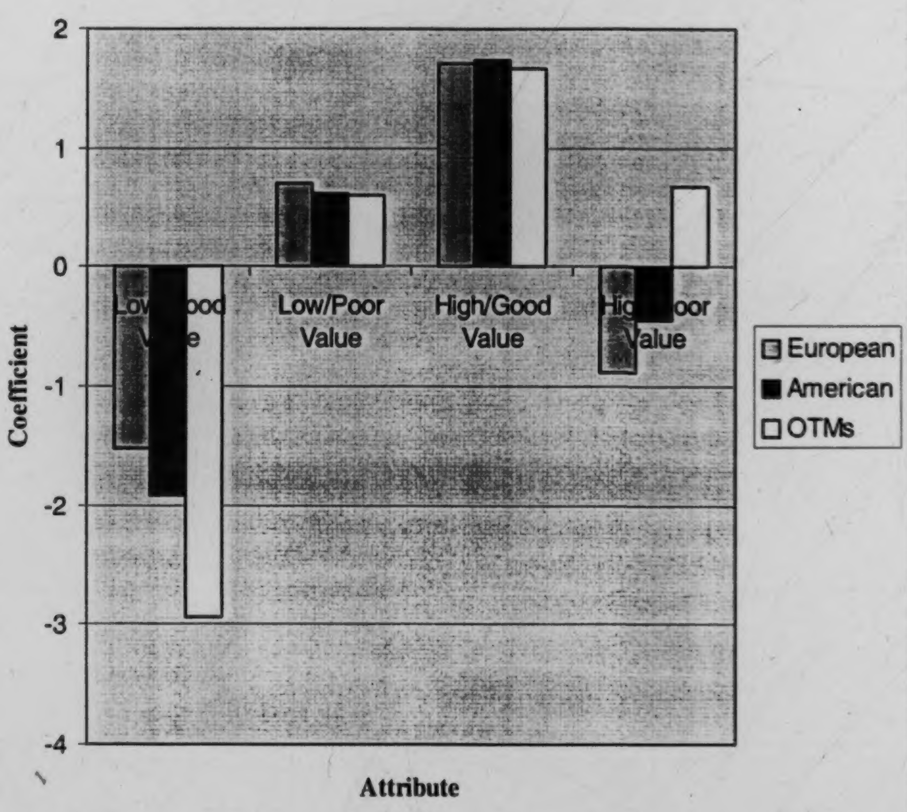
6.2.2.12 Direct Flights to the Parks

This variable is shown to have impact on the choice probability in the European model only. While this may seem a little baffling, it may be reasonable to assume that tourists, once in the destination country, prefer ground to air transport as the former provides them with the opportunity to see the countryside. Alternatively, since such service involves leasing of charter planes, the respondents in this study, with a median family income of US$52,500, find it beyond their means.

6.2.2.13 Camping Cost/Quality

The "camping costs/value" is yet another variable that shows the unique perceptions of tourists on Tanzania and Kenyan tourism. The "low price/good value" attribute is negative and insignificant in the European and North American model but significantly negative in the OTM model. The "low cost/poor value" attribute is shown to be insignificant. Conversely, the "high cost/good value" attribute is positive and significant in all models. This indicates that a high price is not a disincentive to tourists as long as high quality is maintained. This makes sense since camping is an outdoor (mainly in the parks) activity that may be dangerous and therefore requires high quality facilities even if this quality costs more.

Fig. 6.7: Comparison of Camping Costs/Value Across Markets



6.2.2.14 The Income Effect

In Group One, results show that as income increases, probability of choosing Kenya and South Africa increases: all South Africa's coefficients and two of Kenya's three income coefficients are significant. Conversely, Tanzania's and Other Countries' probabilities of choice are unaffected. The same trend repeats in Group Two.

Fig 6.8 (a): The Income Effect on the Probabilities of Choice (Group 1)

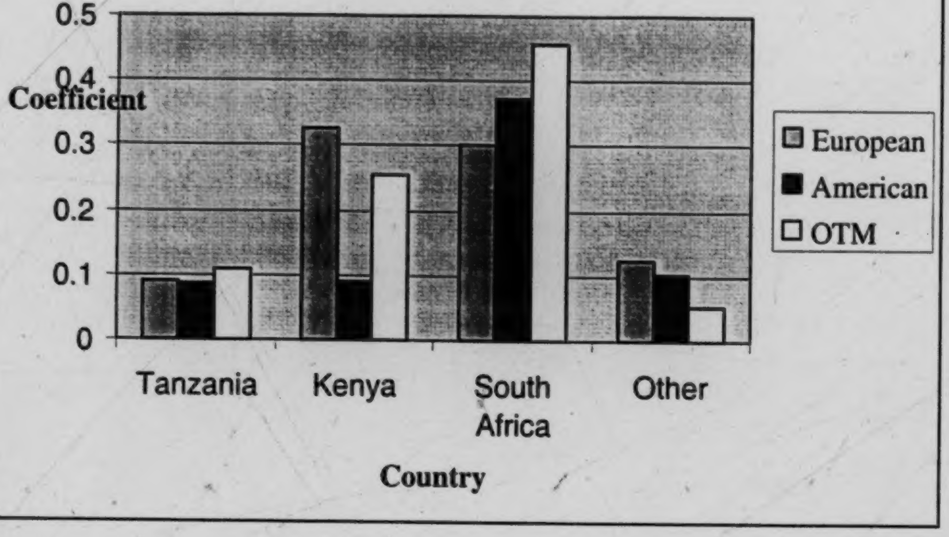
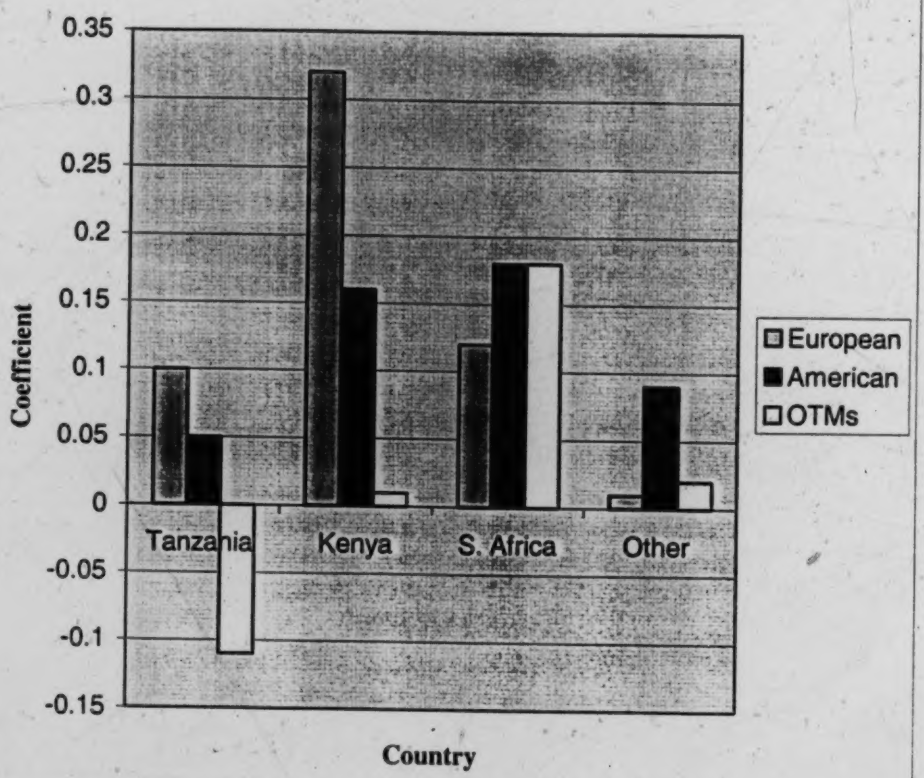


Fig. 6.8 (b): The Income Effects on Probabilities of Choice (Group Two)



6.3 Test of Taste Variation

Table 6.11 presents results of the nested log-likelihood ratio (LR) tests of taste variation across the three market segments: the European, North American and the OTMs. The null hypotheses are rejected at the 5% level by both groups of tourists. This implies that there is a great taste variation among European, North American and the OTM tourists. The model also tested whether taste varies in accordance to the area where the study's respondents were contacted, i.e., Tanzania and Kenya. As Table 6.12 shows, the null hypotheses are again rejected in both groups. The implication of these results is that tastes vary according to where the tourists come from and according to where they were interviewed. Thus, for both Tanzania and Kenya to maximize tourism revenues and expenditure, market targeting should be planned in such a way that each market is accorded what is most appealing to it.

Table 6.11: Results of Log Likelihood Ratio Test: Europeans, North Americans and OTMs Segments

Group	Hypothesis	Log Likelihood Function of Restricted Model	Likelihood $\sum$ of Unrestricted Models	Chi-Squared Statistic*
One	H0: $\beta_1 = \beta_2 = \beta_3$	-2409.034	-5633.319	6448.57
Two	H0: $\beta_1 = \beta_2 = \beta_3$	-2057.265	-5104.511	6094.492

* χ^2 critical value at 5% level and 3 degrees of freedom =7.81

Table 6.12: Results of Log Likelihood Ratio Test Based on Where the Tourists were Interviewed: Tanzania and Kenya

Group	Hypothesis	Log Likelihood Function of Restricted Model	Log Likelihood $\sum$ of Unrestricted Models	Chi-Squared Statistic*
One	H0: $\beta_1 = \beta_2$	-2409.034	-2269.204	279.66
Two	H0: $\beta_1 = \beta_2$	-2057.265	-2076.157	37.784

* χ^2 critical value at 5% level and 2 degrees of freedom =5.99

6.4 Results Implications

6.4.1 Implications of the Socio-economic Characteristics

From the socio-economic characteristics, both Tanzania and Kenya can learn a number of things. First, the age group with the greatest number of tourists is between 31 and 40 years. This information is significant in that it enables them to have an effective plan that concentrates on a particular age range, thus minimizing the utilization of their limited resources. For example, tour operators could combine sightseeing safaris with mountain climbing and expect a high response rate from this energetic age group.

Second, in the same effort to minimize costs, these countries should increase tourism promotion in Germany, Britain, United States, Canada and Australia, as these are the countries with the greatest number of tourists to the region.[29] This is not to say that the current efforts by the Ministry of Environment, Tourism and Natural Resources in Tanzania to promote tourism in Japan and other Far East countries should be discouraged. Indeed, such efforts may open new sources of tourists and avoid relying too much on a few geographical regions for tourists; however, they should be pursued without compromising promotion in the traditional sources mentioned above.

The socio-economic variables also indicate that the tourists who visit Tanzania and Kenya are mainly from middle income families. Thus, while Tanzania's efforts to attract fewer but richer tourists are welcome as they ensure environmental sustainability without drastically reducing tourism expenditure levels, such efforts should be done with this understanding in mind in order to avoid a backlash. For example, instead of raising prices[30] or providing expensive services as a means of limiting the number of tourists, efforts should be directed at opening up areas not visited before in a manner that will ensure that the environment is not damaged seriously. This is especially true for Tanzania, whose Southern Circuit attracts a fraction of the tourists who visit the Northern Tourism Circuit even with the fact that the former is significantly large.[31] Alternatively, Tanzania should seriously promote other forms (cultural, beach and sports) of tourism in order to avoid having too many tourists in its parks at one time.

---

[29] This is according to the sample of this study. However, other longer term studies have shown a pattern not very different from this (see the URT, Tourism Master Plan, 1996)

It can also be seen that the time spent for vacation is spread more or less equally between 'one week,' '10 days,' 'two weeks,' and 'more than two weeks.' This is important for tourism planners in Tanzania and Kenya as it underlies the importance of promoting both short-term and long-term tour packages. In addition, the fact that the majority of the respondents indicated that the motivating factor for their choice of Tanzania and Kenya as tourist destination was a combination of nature, beach and cultural tourism, points to the importance of developing all three together. While Kenya has made great strides in the joint nature-beach front, Tanzania needs to invest in beach tourism, which is in its infant stage despite the fact that it has an 804 mile uninterrupted coastline. In both countries, cultural tourism is either in its senile or infant stage; these countries need to revive or develop more this type of tourism.

---

[30] In order to reduce the number of tourists who intended to climb Mount Kilimanjaro on the 2000 new year eve, the Tanzanian authorities sharply increased the hiking fees and accommodation charges. This led to a massive withdrawal from the 7,000 bookings to a few hundred, a level lower than the one experienced during the non-holiday periods.

6.4.2 Implications of the Stated Preference Estimation Results

Results from the stated preference estimation indicate that Kenya's image is bigger than that of Tanzania, and this leads to an increased likelihood of Kenya being chosen relative to Tanzania. This implies that irrespective of Kenya's physical attractions and its ability to offer quality services, some tourists choose to visit it just because it has a 'good' name. For Tanzania to catch up with Kenya, its tourism stakeholders should go beyond the current domestic restructuring and invest in advertising the country abroad. Available statistics indicate that Tanzania has not put enough emphasis on advertising.[32] Tanzania should also emulate Kenya, which has a tourism promotion section in its major embassies abroad, and well-established tourism web sites.

Results also indicate that an increase in travel cost negatively impacts the probability of choice. An increase in travel cost by 1% results in a decrease in the probability of choice of between 0.89% in the OTMs model and 1.31% in the North American model, highlighting the importance of Tanzania and Kenya addressing the problems of inadequacy and/or low quality of roads and airports, which are the main reason travel costs are high in these countries. Indeed, results also indicate that the probability of choosing Tanzania and Kenya increases with good roads as opposed to bad ones. A 1% road improvement leads to a 0.63% increase in the probability of choice in the European segment, 0.6% increase in the North American segment, and 0.67% increase in the OTMs segment. Since the region has a small percentage of paved roads (see Chapter 7), a policy aimed at improving this sector will greatly help the tourism

---

31 More on this subject is covered in Chapter 7.

32 Interviews by this researcher revealed that in 1998, Kenya spent approximately US$10 million to advertise its tourism potential abroad. In the same year, Tanzania spent a paltry US$300,000 for the same purpose.

sector. The same can be said for hotel accommodation: tourists seem to choose a hotel that charges low prices but offers good quality service. Given that an improvement in the attribute (low price/good value) value by 1% leads to between 1.5% and 1.97% increase in the probability of choice , this result is important to the region and especially to Tanzania, whose accommodation facilities were classified by another study as of "poor value for money," in that the quality of the product was not of a high enough standard to warrant the price levels charged (URT, 1996). Redressing this situation deserves serious attention since this study found that a 1% change towards "high costs/poor value" – which is the current state of Tanzania's hotel accommodation—leads up to a 0.44% decrease in the probability of choice. The URT (1996) study also found Tanzania lacking in diversity of accommodation facilities when compared to Kenya. Even more disappointing is that the existing hotels prior to the 1990s were not categorized (ERB, 1999), giving room for unscrupulous hotel owners to charge prices that are too high compared to the value of the service they provided. Tanzania needs to improve not only the physical infrastructure in the hotels by imposing a quality control policy, but also needs to invest more in education and training of hotel staff, who compare unfavourably with their counterparts in Kenya as being in lack of professionalism.

As for local prices, one would expect tourists to choose a destination with the 'low price/high value' combination, but they rather prefer a 'low price/low value' combination as a sign of their disbelief that high value is attainable in the region.[33] Thus, their choice is based more on price than on value. Although this emphasizes the need for Tanzania and Kenya to devise the necessary mechanisms that will lower domestic price levels, it also calls for a need to improve the value of local products sold to tourists. This is important because persistent low valued goods may discourage high-income tourists from choosing the region as their vacation destination. For example, both Tanzania and Kenya could embark on product-based training programs to give the suppliers of goods a better understanding of marketing aspects such quality improvement, packaging, consistency, and timeliness of supply.

---

[33] A 1% change in the value of these attributes leads to a more than proportional change in the probability of choice in 4 out of 6 models.

In all market segments, the probability of choice increases with a 'group with guide' option. A positive change of 1% in the state of this attribute leads to a positive change in the probability of choice by 3.11% in the European segment, 2.9% in the North American segment, and 2.56% in the OTM segment. Thus, it is an important factor that should not be ignored in Tanzania and Kenya. Whereas this result underlines tourists' desire to minimize costs by choosing a group option, it nevertheless points to the fact that this option provides some measure of security against local violence or muggings. As if to emphasize this point, tourists indicated that they were willing to pay a high price in order to have high valued (and secure) camping facilities: a positive unit change in the "high costs/good value" leads to between 1.4 and 1.74 unit positive change in the choice probability. This is an important indicator for Tanzania and Kenya as it shows that tourists are willing to pay dearly as long as these countries prioritize security in the tourist areas. These results also underscore the significance of Tanzania and Kenya having well trained guides.

The 'unique wildlife' variable exhibited a positive correlation between itself and the probability of choosing Tanzania and Kenya. This is similar to the findings of Rahemtullah's (1998) study in which unique wildlife was found to be highly significant in influencing tourists' choice of the Seychelles as a tourist destination. In this study, however, the impact emanating from a change in the quality of wildlife is not big, as a 1% change in the quality leads to between 0.12% probability change in the North American segment and 0.38% in the OTMs segment. This should not be construed to mean that preserving the unique wildlife in Tanzania and Kenya is not of great importance. It is probable the tourists who responded to the study's questionnaire already assumed that the wildlife in these destinations was unique, in which case they did not give it much weight in making their travel decisions. To strengthen this point, tourists also indicated that a big number of animals—itself a unique feature—would strongly influence their probability of choice.[34] Given these factors, both countries should continue with their resolve to protect their wildlife, both the 'common' type and the endangered species. The efforts to contain poaching in the region should also be intensified.

One of the ways to achieve the above goal is to have a park development policy that is moderate. Respondents of this study preferred this level of development to other levels of development.[35] While such policy ensures that tourists get an adequate service, it also reduces stress on the ecosystems, giving the wildlife enough room for survival. It will also ensure that the park is manageable. Of the two countries, Kenya needs to work harder in reducing overcrowding in its parks, a result of too much development (Olindo, 1997). Kenya's tour operators also blame the flood into the Masai Mara on the undue emphasis it drew in Kenya's tourism promotion, making the park so popular that every tourist wanted to go there. Whereas Tanzania faces the same problem in its Northern Tourism Circuit although to a lesser extent, it is learning fast from Kenya's experience. Tanzania's ongoing overseas promotion is focusing on other unusual options; these include sports, culture, water rafting and canoeing. While these efforts are commendable, what Tanzania needs to do most is to open up the Southern Circuit, which remains relatively undeveloped and inaccessible to would-be tourists.

---

[34] A 1% change in the "big number of animals" leads to a change of between 1.03% (1.2%) and 1.35% (1.57%) in the choice probability.

[35] A movement from this state leads to, on average, about proportionate change in the probability of choice.

The income variable is shown to be more significant in South Africa, followed by Kenya. The income coefficients are not significant in Tanzania in the nested models. A 1% increase in tourists' income leads to an increase of between 0.12% and 0.45% in South Africa's probability of choice, 0.01% and 0.33% in Kenya's probability of choice, and –0.11% and 0.11% in Tanzania's probability of choice. These findings should be taken seriously by Tanzania, which seems not to be favoured by rich tourists, more so because the country has embarked on selective tourism, which targets a few rich tourists to avoid the problems caused by mass tourism. Given this polarized situation in which Tanzania is targeting rich tourists who seem to be avoiding it, the importance of improving the service sectors—transport, accommodation, customer service—in Tanzania cannot be overemphasized.

Results further indicate that when the market is segmented, policy formulation comes in more handily, especially for countries such as Tanzania and Kenya that are faced with inadequate resources and multiple sources of tourists. Market targeting is important because people from different geographical regions often exhibit different perceptions and preferences. For example, looking at the results of the segmented models, it can be summarized that for Tanzania and Kenya to attract tourists from all three geographical regions, they should put more emphasis on good value and security when wooing the European and North American markets. For the "other tourism markets (OTMs)," emphasis should be placed more on cost reduction. In short, in order for both Tanzania and Kenya to maximize tourism revenues and expenditure, market targeting should be planned in such a way that each market is accorded what is most appealing to it.

6.5 Summary and Conclusion

This chapter has presented estimated results for two groups of tourists who visited Tanzania and Kenya between November 1999 and April 2000, generated by probabilistic choice models. Each group was then divided into three market segments and re-estimated. Such segmentation allows for a better understanding of differing tastes in these markets. Furthermore, the results showed how different regions made different holiday destination choices. This can be very helpful in making forecasts for tourism demand in Tanzania and Kenya more precisely and hence in helping develop marketing strategies.

Compared to Tanzania, Kenya's image abroad influences the probability of choice more in both groups and in all three segments: the European, the American, and the Composite. Also slightly in favour of Kenya is the income factor, in that people with higher income would prefer Kenya to Tanzania. In addition, the estimated coefficients were examined and most were found to be in the postulated directions. In brief, the European and North American markets appear to place more emphasis on value and safety factors than the tourists in the composite model, who are more concerned with cost.

As for the model testing for similarity of tastes, all market segments in both groups and in both nested and non-nested models were shown to have different tastes. The same was observed when the tourists were segmented according to the place they were interviewed. This suggests that in the eyes of foreign tourists, what Tanzania offers is different from what Kenya offers.

The findings presented in this chapter, however, do not show whether the strengths of the attributes can be sustained over the long term. Nor do they exhaust the factors that lead to, and maintain, sustainability in the tourism sector. These issues are discussed in the following chapter.

CHAPTER 7: TOURISM SUSTAINABILITY AND POLICY ISSUES

7.0 Introduction

Unlike many other industries, tourism does not lend itself to easy analysis in economic terms since it is divided into many different activities, including travel, hotel accommodation, catering, car hire and tourist guiding. In addition, tourism requires considerable investment in public infrastructure and services such as airports, roads, electricity, water, and telephones, which do not normally enter into cost and benefit analyses of the industry.

A thorough study of sustainable tourism that is dependent on wildlife, in addition to taking into consideration all the above factors, would be required to make use of biological models that show growth and harvest rates of the most important wildlife species. It would also need to consider the resilience of the habitats of these species in the face of extreme usage. The study would also have a sociological discussion on the customs and beliefs of the local populations and how these may impact on and are impacted by wildlife survival.

This chapter, therefore, is not a comprehensive discussion of sustainable tourism in Tanzania and Kenya. Rather, it is confined to sustainable tourism defined as tourism that is competitive enough to satisfy the demands of tourists, tourism that benefits and thus elicits cooperation from the host populations, and tourism planned in such a way that its benefits can be guaranteed into the far future. In order to obtain the necessary information to write the chapter, the researcher interviewed some tour operators, officials of ministries dealing with the environment and tourism in Kenya and Tanzania, and reviewed studies on the subject at the universities of Dar es Salaam (Tanzania) and

Nairobi (Kenya). Information was also obtained from the Kenya Wildlife Services Headquarters in Nairobi and the Mweka College of Wildlife Conservation Management at Moshi, Tanzania. The researcher also sought information from local people, from the Nairobi and Kilimanjaro National Parks authorities, and from the *Stichting Nederlande Vrywilligers*" (SNV)[36] centre in Lushoto Tanga, Tanzania.

The chapter proceeds as follows. First, the concept of sustainable development is discussed in Section 7.1. The remaining part of the chapter presents a case study that assesses tourism sustainability in Tanzania and Kenya. In Section 7.2, the ability of Tanzania and Kenya as destinations to satisfy tourists' needs is assessed. Tourists' perceptions were elicited in Chapter 6; however, this section tries to fit them into a discussion of sustainability. Section 7.3 presents a discussion on whether or not tourism has benefited local Tanzanians and Kenyans enough to evoke their willingness to sustain it. Finally, Section 7.4 discusses the ability of the environment in Tanzania and Kenya to withstand continued tourist activities in the long term.

7.1 The Concept of Sustainable Development

7.1.0 An Overview

Sustainable development is now being recognized as an essential approach to achieving development goals taking into account the depreciation of natural capital, the depletion of natural and cultural resources, and the degradation of the environment. In the Brundtland (WCED) Report (1987) to the United Nations General Assembly, a sustainable development society was eloquently defined as one that "meets the needs of the present without compromising the ability of future generations to meet their own needs." At the United Nations Conference on Environment and Development, popularly known as the Earth Summit, held at Rio de Janeiro in June 1992, the sustainable development approach was further elaborated, and actions were taken on fundamental environmental and developmental issues at the global level.

---

[36] A Dutch institution that supports cultural tourism in Tanzania

Today, most economists agree that although economic efficiency is relevant to development, a trade off must be made between sustainability and efficiency so that greater equity is attained both within generations (intragenerational equity) and between generations (intergenerational equity) (Hanley et al., 1996). But what is sustainability? The next section tries to answer this question.

7.1.1 Different Meanings of Sustainable Development

The concept of sustainable development (SD) is variously defined. Hanley et al. (1996) classify these varieties as those defined in terms of ends and those defined in terms of means. End-based definitions include that of Pezzey (1992), who has defined sustainability as "maintaining average well-being over the very long-term future." Similarly, Dasgupta (1994) has stated that the focus of concern should be present and future welfare. SD was implicitly treated as non-declining consumption over time in early work incorporating natural resource constraints in neo-classical growth theory (Solow, 1974; Hartwick, 1977), although a greater focus was on efficiency. Over time, non-declining consumption has given way to non-declining utility as a policy goal in economic models (Pezzey, 1992). This view results from the recognition that utility is derived directly from the environment as well as from the consumer goods for which natural resources are inputs.

Alternatively, sustainable development has been considered in terms of the means of producing utility; thus, sustainability might be achieved by means of a constraint on the quantity of resources passed on to future generations. In this vein, Pearce et al (1990) have outlined the key necessary condition for sustainable development as "constancy of the capital stock." Similarly, Solow (1992) has defined sustainability as "an obligation to conduct ourselves so that we leave to the future the option or the capacity to be as well off as we are."

Other researchers place various definitions of SD into two broad categories. These are those that focus primarily on the changes in social attitudes needed to retain long term ecological sustainability and those that seek to 'tinker' with the present system, and in doing so, provide a means for recognizing the ecological and social impact, while still mainly promoting short-term economic goals. The 1987 Brundtland (WCED) Report was based on the concepts of meeting human needs (especially those of the world's poor) and of the existence of limitations on the environment's ability to meet present and projected future needs, given the current state of technology and social organization.

Be that as it may, there has been a growing preoccupation in developed countries with ensuring that economic benefits generated today should not unduly infringe on the welfare of succeeding generations. The target is to promote the type of development that limits or even eliminates the negative environmental, social and economic consequences of current activities for future generations. However, developing countries perceive sustainable development, as defined in the North, as an obstacle to reducing poverty and under-consumption in the short run, and in the long run as preventing their citizens from improving their standard of living (Rowlands 1992). Thus, for the concept of sustainable development to be accepted by the people in the developing countries as legitimate and relevant to their circumstances, it must be made compatible and consistent with their own development and aspirations.

7.1.2 Weaknesses of Mainstream Perceptions

The mainstream conceptions of sustainable development do contain some fundamental weaknesses in their characterization of the problems of poverty and environmental degradation and the perception of the objectives of development, sustainability and participation. Furthermore, they lack an appropriate strategy in the face of incomplete knowledge and uncertainty (Lele, 1991).

These weaknesses allow for the formulation of a 'top-down' macro-economic approach that has been characterized as ultimately insufficient. It is argued that the approach suggests 'techno-economic' solutions, while deeper socio-political or cultural changes are largely ignored.

Mainstream thinking on sustainable development is based upon the premise of a limited, two-way link between poverty and environmental degradation. The Brundtland (WCED) (1987) Report defined the problem of poverty and environmental degradation in terms of the growing gap between the number of people on the planet and the limited, finite resources available to meet their needs. It urged policy makers to "realize that spending on population activities and other efforts to raise human potential is crucial to a nation's economic and productive activities..." (Brundtland (WCED) Report, 1987). The poor were not seen as legitimate actors, and their needs were not focused on as the starting point; rather, it was national governments that were perceived to be the main actors and national economic growth the main focus.

The World Bank, in its 1989 report on sub-Saharan Africa, made it very clear that, in its view, the objective of development is to increase economic growth as the means of eliminating poverty and, hence, environmental degradation. This is similar to the Bruntland Report's earlier statement that the only thing needed to be done is to change the quality of growth and in so doing eliminate environmental degradation. The incorporation of the objective of sustainable development is, therefore, seen as a better means of achieving this growth rather than a legitimate end in itself. Lele (1991), however, has characterized this as a "narrow-minded, quick fix and deceptive approach." Similar criticisms can be made of both the World Bank's and the Brundtland Reports' apparent failure to recognize the importance of the local inhabitants as legitimate actors and the improvement of their lives as an end in itself.

In developing countries, probably the biggest problem on this front is the failure on the part of economists and environmentalists to take people (especially the poor people) as a starting point. Chambers (1990) argues that both tend to start with physical problems rather than people and often with the concerns of the rich rather than those of the poor. Putting people first is a means of re-entering the world of economic realities (Chambers, 1990; Jackson, 1990).

For a development program to be sustainable, Barbier (1987) defines an interaction of three systems and human goals, the balance of which must be closely monitored:

(1) biological – the maintenance of genetic diversity, resilience, and biological productivity;

(2) economic – the satisfaction of basic needs (reducing poverty), equity-enhancement and the production of increasingly useful goods; and

(3) social – ensuring cultural diversity, institutional sustainability, social justice, and participation.

Barbier's (1987.) study applies the concept of sustainable development to developing nations, and in so doing provides a framework within which it is possible to link these nations' economic and social goals with ecological limitations. In his view, the primary objective of sustainable development should be "reducing the absolute poverty of the world's poor through providing lasting and secure livelihoods that minimize resource depletion, environmental degradation, cultural disruption and social instability." What should concern us, therefore, is the role economic growth plays in eradicating poverty. This helps to shift the focus of the discussion to how local populations use and interact with their environments and how the political and economic decisions made at the national and international levels conflict with but hopefully can be reconciled with grass-root activities.

The above discussion leads to three questions when applied to nature-based tourism: should developing nations pursue biodiversity and species preservation as a legitimate national goal? Secondly, if so, how can this be done in a manner that attracts more tourists (and money) to these countries so as to raise their economic positions? And finally, how can the two above be reconciled with the levels of economic development needed and expected by their populations? Finding a solution to these questions is important for both the promotion of rural development and the long-term tourism sustainability in Africa. The attempts to attain sustainable tourism development in Africa and their shortcomings will be covered in the remaining part of this chapter, using evidence from Kenya and Tanzania.

7.2 Competitiveness of Tanzania and Kenya as Tourist Destinations

In order to assess a country's competitiveness in tourism, it is important to distinguish between primary tourism (scenery, unique wildlife etc.), tourism facilities (accommodation, services) and the supporting physical and service infrastructure (roads, banking services, etc). In Chapter 6, some of these items were analyzed in terms of the perceptions of the interviewed tourists: what would their reaction be if item X were to be in a certain state? This is the hypothetical case. This section presents the positive case, that is, the actual state of what Kenya and Tanzania can offer.

A report by Tanzania's Ministry of Tourism and Natural Resources (URT, 1996) points out that many tour operators dealing with North American and European tourists judge Tanzania to be especially strong in the abundance and diversity of its wildlife. In this respect, Tanzania was considered to be superior to all its neighbouring competing destinations (including Kenya) in terms of quality, diversity, and visibility of the wildlife in the parks (URT, 1996). Although it was noted that parts of the Northern Wildlife Circuit are becoming more crowded, the sheer size of the area under conservation—25 percent of the total land area compared with 9 percent for Kenya (Table 7.1)[37]—has ensured that the wildlife are not yet outnumbered by tourists. The Ngorongoro Crater and

---

[37] When the total areas under conservation are calculated and combined, Tanzania accounts for 82% of the total (237,200 sq. km). Kenya's share is only 18% (51,075 sq. km) (see Fig. 7.1)

Table 7.1: Some Environmental Indicators in Tanzania and Kenya

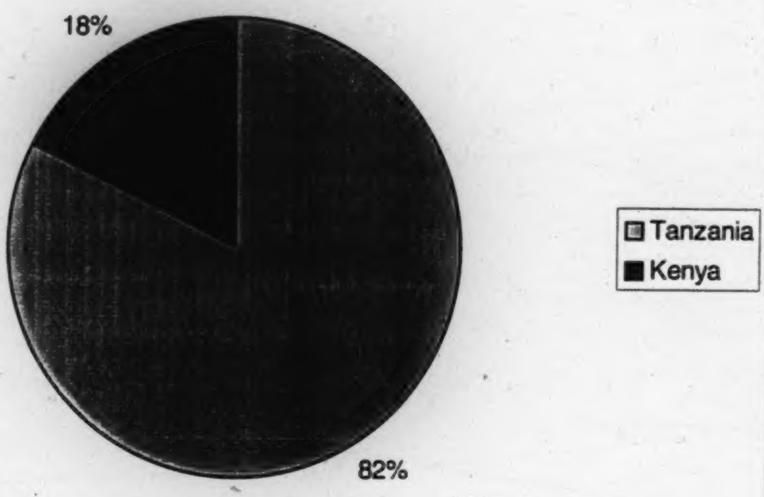
Year/Indicator	**Tanzania**	**Kenya**
Surface Area (sq. km)	945,100	580,400
Forest Area (sq. km)	325,100	12,920
Forest as % of total land area* (1995-99)	34.4	2.2
Annual deforestation (% of change)	1.0	.3
Game parks/reserves (% of total land area)	25.1	8.8

Source: World Bank Tables 2000

the wildlife migration in the Serengeti were both considered as unique wildlife viewing experiences, though during the non-migration season there is less to see. The other not so powerful "strengths" included the scenery, the low tourist numbers per area, the unspoiled natural environment, the potential for development and the friendly nature of the people.

One major weakness of Tanzania's tourism relative to that of Kenya is its lack of diversity. Tanzania's relatively low share of tourist arrivals and revenues over the years may partly be attributed to—apart from a weak service base—the limited tourism product it offers, which is based on the Northern Wildlife Circuit. This product, which is promoted as a part of a larger tour program to Kenya, accounts for the short average

Fig. 7.1: Shares of Land Conserved for Wildlife in Tanzania and Kenya



length of stay and the absence of linkages with other parts of the country. In addition, although Tanzania has an 800-mile coastline, its beach tourism is in an infant stage at best, operating in very few places, such as Zanzibar. On the other hand, Kenya sells a near-complete tourism product, including nature and beach tourism, thus gaining a larger share of the market. The fact that Kenya has an extensive promotion programme that is much better funded than its counterpart in Tanzania has never been helpful to Tanzania's relative position either.

Tanzania's tourist areas are also rated as less accessible than those of any other destination in the region, including those of Kenya. This view can be attributed to the lack of direct flights to the Kilimanjaro International Airport—the main gateway to the

Northern Wildlife Circuit—from all the European countries except the Netherlands. In contrast, Nairobi, the gateway to tourist destinations in Kenya, is served by most of the major European airlines, including the British Airways (UK), the Royal Dutch Airlines (Netherlands), Air France (France) and Lufthansa (Germany). In addition, there are direct flights from major European cities to Mombasa, the hub of beach tourism in Kenya. The Kenyan national carrier, Kenya Airways, also has direct flights from Nairobi to major African cities, some Asian cities, and one European city (Amsterdam).

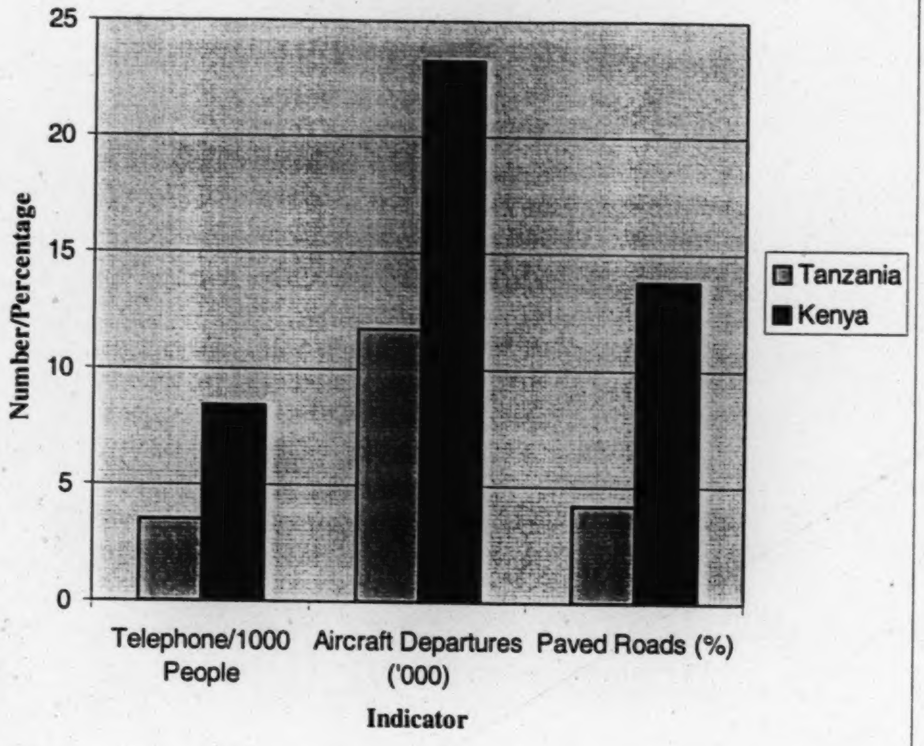
Kenya's edge in accessibility compared to Tanzania can be observed in Table 7.2 and Fig 7.2. The number of aircraft departures in Kenya totalled 13,500 in 1995, which was more than twice the number of Tanzanian flights (5,600) in the same year. By 1999, this number had increased by 47 percent to 19,800 flights, while Tanzania's increased by only nine- percent to 6,100 during the same period. Tanzania also had a lower percentage of paved roads (3.5 percent of the total road network) compared to Kenya's 13.8 percent between 1995 and 1999, implying that for every 100 kilometres of roads paved in Kenya, Tanzania paved only 25 kilometres. Tanzania's dismal performance in this area can be seen by anyone visiting the parks in Northern Tanzania; the last half of the road from Arusha to Lake Manyara, the entrance to the Northern Circuit, has been in poor condition and really only suitable for four-wheel vehicles. Similarly, Tanzania's telephone sector compares unfavourably with Kenya's: between 1995 and 1999 Tanzania had 3.5 telephones per 1,000 people compared to 8.4 telephones per 1,000 people in Kenya. Although internet service is new in the region, Kenya still seems to be ahead of Tanzania, with 0.2 hosts per 100,000 people compared to zero hosts for 100, 000 people in Tanzania.

Table 7.2: Some Infrastructural Indicators in Tanzania and Kenya

Year/Indicator	Tanzania	Kenya
Telephone mainlines (per 1000 people)		
1995-1999	3.5	8.4
Aircraft departures		
1995	5,600	13,500
1999	6,100	19,800
Roads, paved (%)		
1995-1999	4.2	13.8
Internet hosts (per 10,000 people)		
1995	0.0	0.0
1999	0.0	0.2

Source: World Bank Tables 2000

Fig. 7.2: Comparison of Some Infrastructural Indicators in Tanzania and Kenya (1995-1999)



The above statistics are well reflected in the normal traveling experiences in Tanzania, where the more frequently cited access problems are road conditions and domestic air services provided by the national carrier, Air Tanzania. Tour operators perceive it to be very difficult to include the Southern Circuit in tourist packages because of the high domestic flight charges[38] and unreliable road conditions, especially during the wet season. In contrast, flight charges from Nairobi to any tourist site in Kenya (including Mombasa) are affordable, thanks to more competition in the domestic air travel sector and its passable roads (though many are in need of repair). For tourism in Tanzania to be operated near full capacity, the road and air sectors need urgent attention, especially those leading to or connecting the tourist attractions. To this end, projects such as the World Bank-funded Tourism Infrastructure Project (TIP) should be attracted to the country and given due support.

In terms of accommodation, Tanzania also suffers when compared to Kenya. Most of the accommodation available was termed by most tour operators as of "poor value for money" in that the quality of the product was not of a high enough standard to warrant the price levels charged (URT, 1996). Also lacking in Tanzania is diversity of accommodation facilities. Whereas Kenya has diverse accommodations ranging from five-star hotels to simpler, economy hotels, Tanzania never had many top/exclusive hotels prior to the 1990s. Even more disappointing is that the existing hotels prior to the 1990s were not categorized (ERB, 1999). The opening of top hotels such as the Sheraton, Sopa and Serena Lodges is a step in the right direction.

---

[38] The introduction of new airlines for domestic destinations in Tanzania following the liberalization of the transport sector may partly solve this problem.

Related to the accommodation problem is a general feeling that customer service in Tanzania's hotels, restaurants and game parks is inferior to that offered in Kenya, in that staff in Tanzania is more lacking in professionalism. Lack of training, which was blamed for this problem, should be targeted if Tanzania is to catch up with Kenya.

Security is a problem that is facing both Tanzania and Kenya. Tourist muggings have been reported in Dar es Salaam, Nairobi, Mombasa, and other beach areas (URT, 1996). Bandit attacks have also been reported in the Serengeti. In Kenya, tribal clashes have frightened off some potential tourists. Although these unfortunate events are more frequent in Kenya than in Tanzania, both countries need to address this problem if they expect the number of tourists to soar.

Both Tanzania and Kenya charge high prices for entry in to the national parks. Whereas this may sound like a disincentive to tourists, it is important to be retained to limit the number of tourists to sustainable levels and to raise enough revenues to run the parks.

In conclusion, it is clear that Tanzania's ability to attract many tourists by virtue of its more abundant and unique wildlife is compromised by the country's inability to provide services to complement these natural amenities. Whereas Kenya has less abundant amenities, it has been able to improve its service sector and also diversify its tourism packages, thus attracting more tourists (and revenues) than Tanzania. Should Tanzania keep on improving the service sector as it has done in the 1990s, it is likely to significantly improve its tourism fortunes (as Chapter 4 results indicate) and even surpass Kenya in the near future.

7.3 Local Populations and Sustainable Tourism Development

7.3.0 An Overview

One of the pillars upon which sustainable tourism development can be attained is by ensuring that the local people are part of, and benefit from, the tourism industry. Ostrom (1990) asserts that when local inhabitants perceive that the existence of a "commons"[39] enhances their development, they tend to help conserve it (see also White and Runge 1995a, b). This assertion could not be truer anywhere than in Tanzania and Kenya where high degrees of interaction between man and wildlife exist.

The significance of incorporating the locals in tourism development stems from the observation that man's economic activity in the parks and the buffer areas, if unchecked, poses a threat to the parks and consequently to the tourism industry. What both Tanzania and Kenya have done is to set rules for animals' protection. But setting rules to prevent locals from using the parks is one thing, enforcing such rules is another. First, even a small park has a large boundary, often too large to be effectively monitored, and locals can often make forays into the park for wood, fodder and grazing. A huge amount of resources that economically weak countries like Tanzania or Kenya would find difficult to afford is required to check such forays and to repair any damage the incursions may happen to inflict. Second, even if the authorities were able to keep the locals out of the parks, the locals would environmentally degrade the buffer areas around the parks, imposing a spatial unidirectional externality via the fringe effect[40] on the parks. As a result, the wildlife and plant life would retreat into the interior of the parks, weakening the defenses at the edges, and rendering the parks vulnerable to erosion and desertification. These problems are exacerbated when the parks' boundaries are arbitrary, since for certain necessities, such as water or wood, villagers may be compelled to make forays into the parks. In addition, animals from the parks can easily stray into people's homes, causing damage to property and life and intensifying people's dislike for the animals.

---

[39] Defined as an environmental good, it could be a park, a forest land, or a water body.

[40] A fringe effect refers to the exposure of the park boundary to a degraded buffer area.

Devising policies that will ensure that local populations do not adversely affect the parks is a commendable move; however, it is only one side of a coin. The other side calls for more effective policies that will ensure that the local people benefit from tourism and the presence of tourist sites in their neighbourhood. That is a big challenge because by its nature and depending on the area, tourism is more likely to be more lacking in 'backward and forward linkages' than other exports, implying that its expansion may not necessarily cause an expansion in other sectors of the economy.[41] Meier (1968) opines that the actual scale and rapidity with which a stimulus from an export product is transmitted to other sectors depend on four factors. The first factor is the rate of growth of the export product, the second is the character of the country's export base, the third is the degree of domestic market imperfections, and fourth is the type and combination of input coefficients used to create the export. Meir also suggests that whether or not the export sector will benefit other sector depended on whether the commodity is produced by local people or by private foreign companies.

Whereas Tanzania and Kenya hope that tourism benefits reach other sectors and especially the local people, the criteria established above needs to be observed. Until now, a lot of emphasis has been placed on provision of services to the local populations (much as it has been largely ineffective) and little has been said on enabling them to actively participate in tourism activities. For tourism to directly benefit the local people in Tanzania and Kenya, first, the factor proportions in its "production" need to be in favour of low capital-labour ratio. Thus, tourism needs to employ more labour than capital. Second, where employment is concerned, there has to be a policy to guarantee that local people are given preference over people from other countries or other parts of a country. Third, this preference should be extended to the inputs used to "produce" the tourism good, as this will provide income to the local people who are not directly employed in the tourism sector but who are, nevertheless, affected by the running of the industry in their neighbourhood. It will also reduce reliance on importing everything from abroad, a tendency that creates more employment in the exporting country at the expense of the importing country. Preference to the local people will also spread technical knowledge, training of labour, and the acquisition of organizational and supervisory skills. Finally, market imperfections (e.g. a rigid or unfriendly tax regime, restrictive tendencies such as red tape bureaucracy) need to be removed, not only to attract foreign investment in the sector but, more importantly, to empower local entrepreneurs.

In order for local people in Tanzania and Kenya to actively participate in tourism sustainability efforts, the policy needs to be geared towards these goals. It is on the premise of the same goals that the effects of tourism on local people are discussed in the following sections, in order to highlight the policy achievements and failures in these countries.

---

41 The so-called "Enclave Theory."

7.3.1 Tourism and Local People in Tanzania

7.3.1.1 Land Ownership and Tourism in Tanzania

In Tanzania Mainland, the Land Ordinance Cap 113 of 1923 guides the ownership of land and all subsequent legislation has been grounded on this ordinance (ERB, 1999). According to this legislation, all land is public property, and the President is granted powers to make land grants and leases if he deems it fit for the good of the republic. The same holds for Zanzibar, where the 1964 revolution overturned the feudal form of land ownership, putting land under state control. This type of land ownership has enabled Tanzania's pre-colonial and post-colonial governments to organize the tourism industry without major obstacles.

The first game reserves and sanctuaries in Mainland Tanzania, then called German East Africa, were established in the Moshi and Kilimanjaro districts in 1891. In 1896, two other areas, Rufiji and west Kilimanjaro, were declared game reserves. By 1908, there were eight reserves, and by the end of World War I, there were 11. With the establishment of these parks, the marginalization of Africans in general and the local people in these areas in particular also began. Although both Africans and Europeans were required to obtain licenses before any hunting was undertaken, a new regulation was introduced in 1898 prohibiting Africans from hunting. This came about when Europeans blamed Africans for destroying wild animals. This regulation not only set in motion the process of marginalizing the Africans, but also created the foundation upon which even the current system seems to favour foreign hunting companies.

The land Ordinance of 1923 also empowers the President to designate land for tourist hotel construction without too many obstacles. The market economy and liberalized policies adopted in the 1980s led to the formation of the National Investment Act of 1990 and the Investments Promotion Centre (IPC), both of which have the task of inviting foreigners to invest in various sectors of the economy. Using the existing land tenure, the Ministry of Lands and Urban Development allocates plots to investors, most of them foreigners, for hotel construction without involving local or district administration.

Although in these cases the investor is required to enter an agreement with the original users of the land for compensation, the former users do not have the option of refusing to enter into the agreement, thanks to the 1923 Land Ordinance. Negotiations take place between the developers and local landowners, but in reality, the local people do not know the value of their land, ending up being paid meagre compensations.

7.3.1.2 Tourism and Disaffection of Local Communities in Tanzania

As one would expect, developers find the arrangement described above very suitable as can be seen in the rapid pace of land acquisition: between 1990 and 1998, over 80 new investment projects were approved for tourism, mostly in beach areas (ERB, 1999). Some of the agreements to establish these projects have been concluded between the government and foreign investors in total secrecy, without involving the local communities. One example that serves to illustrate this involves the Nungwi Project in northern Zanzibar.

Nungwi is a tranquil, self-contained community with very beautiful beaches and a range of holiday accommodations. In January 1999, a local paper[42] reported a proposed tourism project, then at an advanced stage, at Nungwi. The project, to be started and run by a British-based East Africa Development Company (EADC), was to cost US$ 4.25 billion and was projected to generate a 26% share in returns. It was to occupy 57-square-kilometres (10% of Zanzibar's landmass) at a lease of one British pound per annum! The project was to include 14 four-star hotels, apartment complexes, 18 hole golf courses, a 7-kilometre artificial lake, marinas, a new international airport, utility plants, a university, off-shore banking facilities and a new motorway linking the development with the rest of the island. In return, the project was to provide schools, roads, a desalination plant, a power station and a hospital for the local community.

However, the project was to displace 20,000 villagers, damage the delicate coral reefs, congest the island with visitors, and pollute the environment through effluent emissions. The project was proposed without any involvement of the local people who were to be affected by its implementation. The same paper alleged that some officials of the company (EADC) were not to be trusted as they had previously been convicted of separate fraud cases.

Environmentalists questioned the scale of the project and raised concern over the likely effects on the land and marine environment, including the fate of the 20,000 displaced local people. When this news broke, the Zanzibar government went on the offensive, sometimes arguing that the problem had been exaggerated by external elements not friendly to Zanzibar. But later, when it became clear that the developer had not been seen on the island since 1997, it became clear that that such a proposal indeed existed.

This is a clear case in which both the involvement of local communities in tourism development planning and transparency on the part of the government are

---

42 *Financial Times*, Issue No. 114,of Wednesday, January 6-12, 1999, p.6

lacking. What is most worrisome is that plans of the same kind (where local communities are not involved) are underway in the coastal areas of the mainland such as Bagamoyo (ERB, 1999).

In addition, landing sites have also been taken from the fishermen along the coast for tourist hotel construction without adequate consultation. These problems have caused frictions between hotel developers and local people, and between the local people and the authorities. Most local people are concerned that the land that was to be theirs and their children's is now in the hands of private—and in most cases foreign—hotel owners.

To exacerbate the problem, most hotels have introduced strict regulations against local people who want to enter their premises. Indeed, even this researcher was denied access to a prominent foreign-owned tourist hotel in Dar es Salaam despite having the required research permit from the government. To the majority of Tanzanians, these restrictions indicate that the hotels are meant for the rich and the powerful and not for the common man.

The miseries of the local people are not confined to the coast. Widespread disaffection by the local people has been reported in the areas where tourism is the main economic activity (readers may see a detailed analysis in ERB [1999] document). For example, with the creation of the Kilimanjaro National Park came the regulation that forbids local use of the forest reserve below the National Park area. Apart from making the local people see the mountain as the site of an alien investment, the regulation has also led to numerous wildfire incidences as some local people illegally extract their living from the mountain resources. Resentment problems have also been reported in Momela and Ngurdoto villages (bordering the Arusha National Park), in areas around Ngorongoro

Reserve, Serengeti and Lake Manyara National Parks, Loliondo, and Mkomazi Game Reserve. The local people in these areas, mostly the Maasai, complain of being pushed out of their land and being promised to be given land elsewhere, promises that were not kept by the government. Some of these people have joined the army of unemployed people in the cities as they find life intolerable in the areas the government has relegated them to.

One particular case that illustrates the extent to which the local people deserve sympathy is the case of the Wahadzabe, an ethnic group that lives by hunting and gathering food in Arusha, Singida and Shinyanga regions. The government displaced them and allocated their land to a game hunting company, Tanzania Game Trackers, formerly owned by a Kenyan of British origin who also owned about 20 hunting blocks in different parts of the country. The Wahadzabe are now required to obtain licenses (for which they have to pay) to hunt in their own land and this has led the group to the brink of extinction.

7.3.1.3 Tourism Benefits and the Local People in Tanzania

Benefit sharing in tourism is being supported through policy and institutional changes (URT, 1996b). It is recommended that local communities be given priority in terms of employment benefits and other social and economic benefits. In addition, the wildlife policy advocates "involving all stakeholders in wildlife conservation and sustainable utilization as well as in fair and equitable sharing of benefits" (URT, 1998d). Tourism is also expected to raise educational standards and bring new life and culture to the local communities while preserving the cultural heritage of the local populations.

While these contributions are expected from tourism, reality suggests otherwise. It is true that thanks to the growing tourism sector, a number of tourist hotels and an excessive number of tour operators, tour guides and companies have mushroomed in Arusha, Zanzibar and Bagamoyo. In addition to stimulating skilled labour, tourism is also likely to encourage new businesses such as curio shops and training institutions. Expanded tourism will undoubtedly expand employment opportunities. For example, the study found that local people around the Kilimanjaro National Park benefit from tourism, working as porters and guides for the tourists who climb the mountain. Sources from the Kilimanjaro National Park Authority (KINAPA) indicate that employment to local people has raised the standard of living in the areas to levels similar to those of the nearby Moshi town. Furthermore, in order to protect this employment, people have participated in rebuilding a worn out 12 km. tarmac road from Himo to Marangu Mtoni for easy passage of tourists to and from the park.

But the Kilimanjaro example is more of an exception than the rule. Numerous complaints from local communities elsewhere that local people are not adequately employed, not even to do unskilled jobs, are on the rise. Thus, local people do not benefit from tourism as much as they deserve. They see the hotel and tour company owners as having too much power and the freedom to employ whomever they want. In most cases, they end up employing their relatives. These problems have been reported at Momela and Ngurdoto areas, Zanzibar and Bagamoyo. Furthermore, farmers in Kilimanjaro, Arusha, Zanzibar and Bagamoyo have complained that the tourism industry does not benefit them since neither the tourists nor the hotel owners buy their produce (ERB, 1999).

Another area where local people are supposed to benefit from tourism is through community-based conservation programs, facilitated by the Tanzania Parks Authority (TANAPA). The program also ensures that benefit-sharing partnerships, which enhance the conservation of natural resources and the well being of local communities, are in place. Most of the projects funded are for schools, hospitals, road rehabilitation, water and veterinary delivery services. These programs, however, face so many problems that it is unlikely that their goals will ever be achieved under the present arrangement. On one hand, the local people report that they have not benefited; they accuse TANAPA of either not involving the local authorities, of not doing enough, or of not doing anything at all. These complaints have been recorded in Ngorongoro, Ngurdoto, Momela, Mkomazi and Mto wa Mbu areas. On the other hand, TANAPA complains of receiving very little support from the local governments, the central government and the local people themselves; it argues that it cannot afford to pay for all these projects in every village and then pay taxes to the central government.

With regard to conservation programs, the Ruaha Conservation Program seems to be a success story of community involvement. The park authorities have helped the villagers around the park to build schools, health centres, village offices, water schemes, and roads. Conservation education plays an important role in the projects. The program also provides direct benefits of park revenues to the people, the majority of whom once lived in areas now under the park, and who entirely or partly depend on the park's resources. This communication has helped to change local people's attitude towards the park and to some extent help reduce poaching. Village game scouts help patrol the parks boundaries and villages in the surrounding area get a game quota every year. Animals that are allocated for culling or that are caught straying in the residential areas are auctioned in public and the money raised goes back into the community.

7.3.2 Tourism and Local People in Kenya

7.3.2.1 Land Ownership and Tourism in Kenya

In Kenya, whereas wildlife is considered to be state property, land is private property. Thus, the government is in a position where, if it wishes to designate land for wildlife use, it must seek the cooperation of the people living in the area before it can designate land as wildlife areas. But the designating of land for wildlife use can have many implications for the local populations, as they may see the land as also being suitable for grazing or farming. The fact that only 17 percent of Kenya's land is arable, the population is mainly rural, and there is an annual population growth rate of 4 percent (World Bank, 1989)[43] further complicates matters.

Wildlife populations are growing, and in part in response to this growth, and in part due to their migratory nature, more and more wild animals are straying into the inhabited surrounding areas. It is estimated that about 80 percent of Kenya's wild animals migrate every year in search of water and pastures (Sommerlatte, 1991).[44] For example, animals in the Nairobi National Park move annually to the Amboseli Reserve during the cool season and back in the warm season, leaving behind a wave of destruction of human life and private property as well as diseases that contaminate livestock.

Consequently, this destruction, coupled with the human population growth in the areas adjacent to the parks, has lowered the tolerance level of these communities for both the parks in their midst and for wildlife. This situation has been worsened by the unwillingness of the government to allow the landowners to utilize the profits from the animals on their land. Munai and Kenya (1992) liken this situation with the situation on the Kenyan coast, where local people sold their land to hotel developers and are now homeless in their own land as they are not allowed access of any kind on their former land.

---

[43] This has dropped to 2.1% in 2000

The government's policy that ensures that the local people have limited access to land in protected areas but wildlife has considerably more access to non-protected areas has engendered a perception in the local people that their needs are made secondary to those of wildlife. Many local people see little difference between the post-independence governments and the colonial government when it comes to access to land, lack of wildlife population control, or government support in social service provision.[45]

Thus, it appears that the conflict is one that has been created by animal-centred policies and the subsequent local response of local populations to them. In some areas animals raid crops, while in others they compete for forage with domesticated animals. Although Dr. Richard Leakey, former head of the Kenya Wildlife Service, suggested fencing off the parks to reduce this conflict, it is uncertain whether this will solve the problem of local populations having too little access to the controlled areas.

---

[44] For example, animals from the Nairobi National Park move to and from Amboseli National Reserve annually via private land, destroying crops and killing domestic animals and even people as they do so.
[45] The Walyankulu people were exterminated when the colonial government took land from them and made it a national park.

7.3.2.2 Benefits to Local People in Kenya

Kenya's conservation policy is based on a North American, non-consumptive model that seeks to limit human activities (such as pastoralism and hunting) as much as possible in the parks and instead concentrates mainly on non-consumptive uses of wildlife such as photographic safaris. In the reserves, although preservation of wildlife is the primary purpose, human activities, such as cattle grazing, are allowed. But such permission does not fully compensate for what the local people have to endure, so some effort has been made to appease the local people in order to make them appreciate the parks.

One way to achieve this is by sharing revenue proceeds from the parks/reserves with local people. With the exceptions of the Masai Mara and the Amboseli national parks, most of the parks and reserves in Kenya are managed by the Wildlife Conservation and Management Department (WCMD). Much of the direct income generated by parks and reserves, primarily in the form of entrance fees collected by the WCMD, goes into the central government's Treasury. In theory, the government is supposed to redistribute a percentage of these funds to those communities with whom it has revenue-sharing agreements. In practice, however, the government has always had 'more pressing needs' elsewhere and has failed to uphold its end of the agreement, thus causing a waning of whatever local support such schemes might have generated (Lindsay, 1990).

As for the Masai Mara and the Amboseli national parks, their management was entrusted in the hands of the Maasai local council; this was done to secure the cooperation of the local Maasai people. The government negotiated with them a system of local control and revenue sharing to compensate them for loss of land use.

Since Amboseli contains one of the few continuous supplies of water in the region, access to its basin is important to the local Maasai, particularly during the dry season. Before it was designated as a National Park in 1977, the Amboseli Reserve administration had been handed over to the Kajiado Maasai African District Council (ADC) in 1961. This resulted in continual conflicts between the local Maasai and the council, particularly over the distribution and use of revenues. The Maasai were not only reluctant to forego using the park, but, to show their increasing frustration, began killing rhinos and other wildlife. This led to a government proposal in 1968 that the Amboseli become a Maasai Park, with all the legal status of a National Park. When the KAJIADO ADC rejected this proposal, it was made a National Park under government jurisdiction and was to be managed by the Kenya National Parks Trustees.

To compensate the Maasai, the government helped to establish group ranches on the surrounding lands that were to be owned and organized by the Maasai according to traditional practices. The park administrators also proposed that ranches receive the following benefits: access to adequate water supplies outside the Park area and compensation for tolerating wildlife grazing on their lands in the form of a wildlife utilization fee. Other forms of compensation were direct economic benefits from developing wildlife viewing circuits, tourist campsite trophy hunting and, possibly, game cropping; and improved access to social services such as schools, dispensaries and community centres.

Despite the agreement, however, conflicts continued between the local Maasai and the park management, due largely to the failure of the government to adequately implement the terms of the agreement. Water systems that were installed worked only for a few seasons, and, once they began to break down, were not fixed, making the Maasai dependent on the springs inside the park again during the dry seasons. The wildlife utilization fees were regularly paid until 1981, after which, for no apparent reason, payment became sporadic. Payment of a portion of the park's entry fees never materialized and income from tourism did not increase at the rate anticipated. All this was compounded by the abolition of safari hunting.

The Maasai Mara is located at the northern end of the Serengeti ecosystem and was created in 1961 under an agreement identical to the one reached with the Amboseli Maasai, with one fundamental difference: the council and local people were not in conflict over its management and maintenance. Covering a total of 1,812 square kilometers, the Reserve is divided into two areas. The first is the core area of 518 square kilometers that was developed along the lines of a National Park with appropriate tourist facilities. The second is the surrounding area, where the local Maasai and their animals were to coexist with the wildlife.

The Narok ADC is responsible for providing a warden, rangers and the other staff necessary to manage the Reserve. As part of its duties, the Council collects entry fees from the Reserve, which are either distributed to the Maasai or used for specific development projects within the district. The distribution of social services in the Narok district has made it a success story for community participation in Kenya.

Tornbergen (1993) notes that the local Maasai around the Maasai Mara regard wildlife to be as important as cattle, perhaps even more so, since wildlife revenues are a more stable source of income. The Maasai have not only abstained from grazing in the inner side of the Reserve but also have helped fight poaching. But Tornbergen's study may have overestimated the financial benefits to the local Maasai. The current study found that the money spent at the Maasai Mara National Reserve for the direct benefit of the local Maasai people is about 2% while most of the money goes to luxury lodges, transport costs, and foreign package tour operators. Even revenue from park entry fees goes straight into the central government's treasury.

Even though controversy about its benefits to the local people persists, the Maasai Mara experience is the exception rather than the rule. In general, local people near Kenya's parks/reserves have often been undermined and do not receive financial compensation for the inconvenience they endure. For example, this study found that at the Nairobi National Park, the policy of direct financial compensation is not followed; instead, the focus is on community education and provision of services such as water, veterinary services, and education. In addition, the park cooperates with the Kenya Wildlife Service to dispatch animal control teams who capture or kill any wild animal that threatens or kills a human being. All these are attempts to lessen the negative attitude of the local people towards wildlife. Countrywide, the Kenya Wildlife Service employs locals as casuals, preferring instead to get permanent workers from other areas of the country and even outside the country. In the particular case of the Maasai, they have become increasingly marginalized politically and economically largely due to their unwillingness to change their traditions.

In conclusion, all the examples cited in this section indicate that the alienation of land for wildlife and tourist hotel construction puts the local people in direct conflict with the central government and other powerful interest groups. Naturally, their feelings and attitudes towards tourism development are not affable. Furthermore, it is also apparently clear that local people do not adequately benefit from the tourism sector. If these people are to turn around and become the allies they should be in sustainable tourism development, serious efforts must be done to reconcile their needs with those of the other interest groups.

7.3.3 The CAMPFIRE Experiment: Lessons for Tanzania and Kenya

The Communal Area Management Program for Indigenous Resources (CAMPFIRE) was established with a major aim of promoting rural development and sustainable land use in agriculturally marginal areas of Zimbabwe in the 1980s. It empowers local communities to manage wildlife (and other) resources in defined areas and to determine how benefits from them should be distributed (Koch, 1997). The CAMPFIRE programs purport to improve the livelihoods of the local people, impart a sense of self-management and self-reliance, and provide an incentive for local communities to protect the communal resource. By designating owners of private land or the lessees of state land as the appropriate authority to manage their wildlife resources, the program attempts to change the nature of wildlife management from an open access system to common property ownership.

According to Thomas (1995b) the CAMPFIRE program is based on three principles. The first is that local councils are required to return at least 50 per cent of the gross revenue from wildlife to the community that produced it (for example, where the animal was shot). The second principle defines the ideal size for a producer community as 100 to 200 households because this is large enough for a wildlife program, and small enough that all households can be involved in the program and accountable to it. The third principle stipulates that producer communities must be given the full choice of how to spend their money, including both projects and cash payments. Where communities value cash above projects, they should be allowed cash.

Thus, the CAMPFIRE program attempts to harness the economic value of wildlife, which derives primarily from recreation and tourism, for the benefit of the rural people. In addition, some of the programs have demonstrated to the rural people that wildlife resources management is more beneficial than keeping livestock in marginal land areas (Koch, 1997). Success in changing people's perception to value wildlife has been one of the greatest achievements of CAMPFIRE (Thomas, 1995a).

However, the programs have been criticized for failing to facilitate genuine community participation because they are still seen as externally imposed models of conservation of wildlife, rather than social development, as their basic goal. As Koch (1997, p. 223) quotes Murombedzi (1993):

> A recent assessment of CAMPFIRE notes a number of projects have failed to promote effective community participation in wildlife management because local village and ward committees have often been used merely to implement centrally conceived programs and plans, rather than as participatory institutions for local development planning and implementation

Furthermore, interest groups outside the community involved in CAMPFIRE projects (tour operators, organizers of safari hunt and various government agencies) wield more power than local authorities.

The program has also been blamed for assuming an existence of a homogeneous society in which equity is the organizing principle. As Nabane (1995) points out, this runs contrary to reality; thus, there is a need to differentiate between users under the conditions of common property. In addition, the program is based on an assumption that a successful resource management is facilitated in those instances in which the size of the user group is small, reasonably homogeneous in important socio-economic characteristics, and living in close proximity to the resource. This is contrary to research findings that demonstrate that such homogeneity does not occur in practice. The CAMPFIRE program also assumes that costs and benefits from wildlife are borne by the same community. This has been shown not to be the case; animals are migratory, capable of inflicting costs on one community while benefiting another (Thomas, 1995b). There are important socio-economic differences within communities that need to be considered for a successful implementation of the program. Nabane (1995) even extends this heterogeneity to the family level by arguing that gender differences should be considered when implementing the program.

Lastly, the program has been criticized for its inconsistent implementation. On one hand, the third CAMPFIRE principle emphasizes that local people have full freedom of deciding how to use the proceeds from the program. On the other hand, however, some government leaders have been quoted as discouraging distribution of money to individuals, directing that such money be used instead for communal social services such as school or hospital construction (Thomas, 1995b, p.8). Such inconsistencies are not conducive to sustainable resource management.

In South Africa, the CAMPFIRE program has met with more credibility and popularity than it has in Zimbabwe. Cognizant of the bitter apartheid era experiences among the rural populations, South African authorities have made every effort to start projects that implement the CAMPFIRE principles while putting into consideration local

South African conditions. There is a growing awareness that South African conditions are very different from the conditions in rural Zimbabwe. For example, settlements in, or around, conservation areas are frequently heavily populated and do not lend themselves to the relatively simple mechanisms designed by CAMPFIRE. As Koch (1997) says, it is more difficult for South Africa to establish ownership by a relatively cohesive community over a given set of natural resources because some communities that border the on game reserves are peri-urban rather than rural areas. The 'South African way' has instead been to increase job opportunities for the local people in the established projects, distribute proceeds (meat and firewood) from conservation areas to the locals, and to delegate more power to local authorities.

From the CAMPFIRE program, both Tanzania and Kenya can learn a number of important lessons. First, a program similar to CAMPFIRE should not be imported from one area to another without taking into consideration of the conditions of the recipient area. For example, whereas CAMPFIRE in Zimbabwe encourages local ownership of parks, this is not possible in Tanzania and Kenya, where parks are state property. However, a mechanism can be worked whereby the local people can have a say in the management of the wildlife resources while maintaining the ownership status.

The second lesson is that rather than only concentrating in giving handouts to the local people, the projects should aim at making them active participants by providing employment opportunities. This is not to say that provision of social services is unnecessary. To the contrary, designing a mechanism that will benefit both society and individuals will increase commitment to conservation efforts and reduce free-ride tendencies.

Finally, the whole issue of democracy should be accorded its due importance; local people should not be used merely to implement centrally conceived programs and plans, rather, they should be treated as participatory institutions for local development planning and implementation.

7.4 Can the Environment Sustain the Current Level of Tourist Activity?

7.4.0 An Overview

Human activity in and in the neighbourhood of tourist sites, if unchecked, can lead to serious problems concerning sustainability. The potential problems associated with this human activity are excessive exploitation of the sites' resources (e.g. hunting in a game park) and externalities such as those caused by too many tourists on a beach or a park.

7.4.1 Overcrowding Problems and Sustainability

Overcrowding in the tourist sites of the least developed countries (LDCs) has been blamed on the low entrance fees in the popular tourist sites of those countries (Rahemtulla, 1998). The thinking goes that to curtail the number of visitors to those sites, the administration ought to raise entrance fees. This study could not substantiate the validity of such thinking in Tanzania and Kenya, where entrance fees are substantially high but overcrowding exists in some parks, as this statement on Kenya's Amboseli Game Reserve demonstrates:

> "In the flatlands of Kenya's Amboseli Game Reserve, a lioness lies resting. Every few minutes, a minivan or bus drives up and the crowd of tourists inside snap their camera shutters. The animal may remain for two hours. In that time,

> 25 vehicles might stop (to give an opportunity to their occupants) to stare." (Olindo, 1997, in the Earthscan Reader in Sustainable Tourism, by Leslie France (Ed.)

Such overcrowding has two effects. One is a congestion externality: the sought-for pristine wilderness experience is contaminated when tourists frequently encounter other tourists. This in turn may discourage more travels, denying the parks the funds needed to manage them, hence threatening their sustainability. The second is the external effect on the wildlife. It is likely that, due to being observed too much by tourists, wild animals will alter their natural course of action. This matters to the tourists since one reason for preferring to view wildlife in national parks as opposed to zoos is the chance to see animals behaving naturally in their natural habitat. Thus, on one hand, excessive numbers of tourists can damage the habitat, leaving a less cohesive park for future generations. On the other hand, they reduce their own and others' future desire to visit these parks.

With respect to the study areas, it has been pointed out that Kenya's tourist attractions are becoming overcrowded and their value in terms of tourist appreciation has depreciated (Munai and Kenya, 1992). Overcrowding is being blamed on lopsided economic and conservation policies that have neglected the infrastructure in the tourist areas such as the national game parks. For example, Ruma National Park has very few tourists for the simple reason that the park is inaccessible by road or air. Another site that until recently had very few tourists for the same reason is the Samburu National Reserve. The inaccessibility of these parks and others has led to overcrowding in the few accessible parks, posing a threat to their sustainability. In addition, the Tourism Department has long been promoting Kenya as a tourist destination and is quite familiar with what tourists expect. This is why it cannot promote national parks and reserves that do not offer basic facilities required by tourists. To ease concentration in the few known parks, authorities ought to improve underdeveloped parks.

Overcrowding is also a growing problem in the Northern Tourism Circuit in Tanzania, while the Southern Circuit is operating under full capacity due to accessibility problems. Some overcrowding and the consequent degradation are caused purely by not following the established rules. For example, in Ngorongoro, the tour operators who are eager to provide their customers with the most unique views of the parks do not follow the designated roads, instead they follow undesignated roads. Behind them, they leave the problem of soil compaction and erosion, both of which alter the species composition and influence recovery of grass species. In Arusha National Park and Lake Manyara, some tour operators break the same rule in order to save their customers from paying the entrance fees. Whereas this lowers the costs of visits and improves the marketability of individual tour companies, it affects sustainability in two fronts: denial of revenues to run the parks and park degradation.

The other form of overcrowding is that of hotel accommodation facilities in the parks, which tend to mar the natural habitats of the animals. They interfere with the natural processes such as migration of animals and the tranquility of their habitats. Furthermore, indiscriminate disposal of waste within parks degrades the environment. This was especially true in Nairobi National Park, where authorities pointed out that animals have been affected by eating wastes from visiting tourists. In Tanzania, the Ngorongoro authorities have allowed the construction of hotels, bridges, and aerodromes in the reserve. In the Ngorongoro Crater there are 16 campsites and six luxurious lodges in full operation (Chachage, 1998). Clearly, with these developments, such places are always crowded.

To curb the overcrowding of tourists in the Northern Circuit, the Tanzanian government is following the "high quality tourism path." This allows only a few tourists in the parks at a time so as to reduce degradation and improve natural habitats and their tranquility (ERB, 1999).

The government's efforts have been greatly assisted by a foreign-funded non-governmental organization (NGO) that promotes cultural tourism. The NGO, *Stichting Nederlande Vrywilligers* (SNV),[46] started to develop a program that would enable local people to offer cultural tours to tourists in 1995. The aim was to provide local communities with a new source of income and tourists with a real cultural experience. The program has proved to be popular, and tourists now have the opportunity to choose from a variety of cultural tours organized by local people through the Cultural Tourism Program. More importantly, the program eases overcrowding in the traditional parks and prolongs the tourists' period of stay in Tanzania. In many areas, rural life is an attraction on its own with cultivated plots and lush tropical vegetation forming a backdrop for simple traditional houses. The local people design and organize the tours, show tourists aspects of the area in which they live and of their daily life.

During the tours, local people often show their development projects, like irrigation and soil conservation activities, or income generating projects of women's groups. Some of the tours available in Northern Tanzania are in the Usambara Mountains, Longido, Ng'iresi, Northern Pare Mountains, Mto wa Mbu, Engaruka, Mamba and Marangu, Mkuru, Mulala, and Southern Pare Mountains. Similar efforts are necessary in other parts of the country, especially those with historical significance. In this category are the Kaole Ruins near Bagamoyo, Kunduchi Ruins (22 km north of Dar es Salaam), the Arusha's National Natural Historic Museum, and the Tongoni Ruins in Tanga. In Zanzibar, the Zanzibar Dolphin Tourism Centre, the Zanzibar Cultural Tours, the Amani Nature Reserve, and the Zanzibar Cultural Tours are the areas that could help diversify tourism in the isles.

7.4.2 Competition for Resource Use and Tourism Sustainability

Tourism competes with traditional activities for scarce natural resources such as land, water, wood, and marine resources. The main competing activities are farming, grazing of domestic animals, grass gathering for use as fodder, cutting of trees for firewood and timber, seaweed farming, and hunting. Some of these conflicts were discussed under the section dealing with benefits of tourism to local people, so we shall not deal with them here in detail. Rather, we discuss here some conflicts that were not addressed and the manner in which they have affected tourism and have been affected by tourism development.

7.4.2.1 Tourism and Poaching

Before the creation of parks for conservation and tourism purposes, hunting was a means of livelihood of the people living inside or near the parks. When the parks were established and the local people were forbidden from hunting inside them, illegal hunting, or poaching, began. The latter has drastically affected the numbers of some animals. It should be recalled that these animals are the main reason that many tourists visit the

---

46 The Netherlands Development Organization

parks, and, thus, their unabated reduction is a clear threat to sustainable tourism. In particular, demand for elephant ivory and rhino's horns has led to a drastic decrease in the number of these animals in the parks in the recent past. For example, between 1976 and 1991, the elephant and rhino populations in Kenyan parks decreased by 85% and 97% respectively (KWS, 1992).

In Tanzania, the same situation was observed. For example, the black rhino population in the Selous declined from more than 2,000 rhinos in 1970 to less than 150 in 1996, mainly due to poachers reacting to the huge commercial value of rhinos' horns. In some protected areas such as the Mkomazi Reserve, rhinos had not been seen since the 1960s. That explains why the Tanzanian government, in recognition of the situation, began a costly process of reintroducing them to Mkomazi from South Africa in 1993.

Today, the rate of poaching of elephants has declined due to the world ban on the ivory trade. However, poaching still goes on in the game parks and reserves for rhinos' horns and other animal trophies.

7.4.2.2 Tourism and Seaweed Farming

On the coast of Tanzania and Kenya and in Zanzibar, seaweed farming was introduced to generate income, while acting as a substitute to excessive fishing and tree felling for fuelwood and charcoal for market. This has been especially beneficial to the youth and women in Zanzibar. However, without exception, seaweed competes with tourism for the same resource, the beach. Subsequently, seaweed suffers from a shortage of habitat, because the latter is also suitable for tourism. Reconciling these two economic activities is a key to sustainable tourism development in these areas.

7.4.2.3 Tourism and Beach Erosion

Tourism on the coast of Tanzania and Kenya has also been blamed for destruction of mangrove trees. The latter are cleared either to give room for hotels to be constructed in such a way that gives the tourists access to the sea or for its poles, which are used to construct recreational huts. With the coast free of mangrove trees, beach erosion intensifies to the extent of becoming a threat to the hotels. The felling of mangrove trees is compounded by dynamite fishing, which eats away coral reefs and limits their ability to act as wave breakers. This further magnifies the problem of coastal erosion, which is particularly serious in some parts of Dar es Salaam, where one hotel, the former Kunduchi Beach Hotel, had to spend more than US$ 400,000 in 1998 to protect against the beach erosion that was threatening to destroy the hotel.

7.4.2.4 Tourism and the Extinction of the Ebony Tree

Many tourists who visit Tanzania and Kenya also buy the famous "makonde carvings," made from the ebony tree. Demand for these carvings has increased rapidly, as one can prove by counting the increasing number of curio shops in Tanzania and Kenya. This demand has increased the rate of felling of the ebony trees, which it is feared will be extinct in the near future if serious policy measures are not undertaken to stop their excessive harvesting.

Another negative effect the current study found related to tourism is water pollution resulting from discharged sewage from tourist hotels. Since hotels built near the beaches are popular owing to their proximity to the sea, pollution is likely to deter tourism development by turning off the would-be visitors.

7.5 Conclusion

This chapter has attempted to address the issue of tourism sustainability as it applies to Africa, with a specific focus on Tanzania and Kenya. Furthermore, it has compared the performances of Tanzania and Kenya in each of the three sections, while at the same time trying to answer the question of whether or not the environment can withstand the current level of economic activity in the tourism sector.

It is noted that both Tanzania and Kenya have abundant natural endowments that can sustain the tourism sector if maintained properly. In this respect, Tanzania is more endowed than Kenya. However, lack of political will on the part of Tanzania and poor planning on the part of Kenya have resulted in less than optimal levels of performance. Tanzania was found to be weaker than Kenya in service provision, including roads, accommodation, and customer service. In addition, both countries have a poor record of local community participation and benefits and are vulnerable to negative externalities caused in part by the conflict between tourism development and other economic activities. Concerted efforts need to be made to solve these problems in order to sustain the current level of tourism activity. To achieve sustainable tourism, great effort also needs to be placed in improving service provision, in resolving the conflicts between tourism development and other economic activities, and in fighting environmental degradation.

CHAPTER 8: CONCLUSION

8.1 Research Objectives and Findings

This thesis has estimated demand for tourism in Tanzania and Kenya, compared the performance of these countries' tourism sectors, and attempted to determine whether sustainability in the region can be attained in the long run. It had four specific objectives. The first was to estimate tourism expenditure allocation by foreign tourists to Tanzania, Kenya, and South Africa in order to establish their tourism performances over the years, especially those of Tanzania and Kenya. The model used to achieve this goal is the Almost Ideal Demand Systems (AIDS) which has, among others, the advantage of showing the changing shares of tourism for each of the countries over the years.

The AIDS model results indicate that when Tanzania and Kenya are compared, overall, Kenya has performed better than Tanzania, although recent trends suggest that Tanzania is performing relatively better than Kenya. The results also indicate that Tanzania and Kenya are substitute tourism markets for one another, implying that a decline in a particular incentive in one country will lead to tourists' going to another country instead. Similarly, a major improvement in one country will lead to its gaining a bigger share of the market. The expenditure elasticities for South Africa, Kenya and Tanzania were all shown to be positive, with the level of elasticity for Tanzania being the lowest during the whole period, followed by Kenya and South Africa, in that order. Recent data suggest, again, a relative increase in Tanzania's expenditure elasticity, while the corresponding value for Kenya is falling.

The second objective of the study was to examine the factors influencing the individual tourists' choices of visiting game parks in Tanzania and Kenya. Nested and non-nested multinomial logit models were used to examine the discrete choice problem of choosing between four alternative destinations or not vacationing at all. Apart from Tanzania and Kenya, other alternatives used were South Africa and other Southern African countries. The sample was divided into two groups. Using data from choice experiment (CE) surveys, the study developed and analyzed three segmented models (European, North American and a composite segment called "other tourism markets (OTMs)") for each group using the Stated Preference Method (SPM). The SPM method is preferred over other valuation methods due to its relative freedom from econometric problems, its flexibility, and its resemblance to real life decision-making processes. Results of these models provide insights into the underlying choice behaviour of nature-based tourists as well as estimated impacts of various tourism policies on demand for Tanzania and Kenya's tourism product. For example, different tourist groups (European, North American and OTMs) had their probabilities of choice affected differently by different attributes, information which is helpful in making, more precisely, forecasts for tourism demand in Tanzania and Kenya and hence for formulating marketing strategies. In short, the choice experiment approach has been shown to be a powerful marketing tool for tourism industry, capable of identifying and valuing tourists' needs and developing appropriate programs and strategies to meet them.

The models have also been successful in comparing Tanzania and Kenya as destinations. Tanzania is shown to have a weaker image abroad compared to Kenya. In addition, despite the country's efforts to attract a few, higher-income tourists, the latter prefer South Africa and Kenya to Tanzania. The taste variation tests have indicated that tourists have different perceptions depending on where they are visiting and not only where they come from. Such a comparison is an extra input to policy makers in planning for tourism development.

The third goal of the study was to present a qualitative discussion of sustainable tourism in Tanzania and Kenya, comparing and contrasting policies, performances, and the natural states in these countries. Based partly on the previous work done in the region and partly on interviews by this researcher, the findings of this section act as glue that tries to tie together the findings of the previous two sections into a sustainability framework. It was found that Tanzania is more renowned for the unique nature of its wildlife, its potential for further development, and its having relatively less spoiled habitats. However, Tanzania is shown to have poorer tourism services—lack of flight connections, inferior road and communications condition, and poorer customer service—compared to Kenya, all of which have greatly accounted for the latter's lead in tourist numbers and tourism revenues over the years. The study also found that in both countries, tourism has had little or no benefit to local people, a recipe for failure of attaining sustainable tourism development. Worse, tourist sites degradation has been widely observed throughout the region, casting further doubt on the latter's ability to achieve sustainable tourism development. Owing to these deficiencies, the study concluded that for tourism in these countries to be sustainable, concerted effort has to be done to solve these problems.

8.2 Recommendations

In view of the findings of this study, the following recommendations are in order. First, since the tourism expenditure elasticity for Tanzania is lower than that of Kenya, Tanzania ought to devise a new and better environment that will encourage more spending by tourists in the country. This should involve the establishment of a more competitive tourism industry, in that tourism should be more attractive to local and foreign visitors. The current trend is encouraging; however, the government needs to apply more effort and consider eliminating the bottlenecks that the industry faces, such as lowering and/or reducing the number of taxes paid by local tour companies. The recent (June 2001) abolition of the tourism landing tax in Tanzania is commendable; however, many more taxes that are a disincentive to tourism need to be re-examined and, as much as it is possible, abolished. In addition, Tanzania should consider improving diversification by reducing the heavy dependence on the Northern Circuit. This dependence leads to Tanzania's not utilizing effectively the coastlines for beach holidays and the Southern circuit where the Ruaha National Park has a very large number of elephants and the Selous Game Reserve, which has the largest number of wildlife in the country. The Southern Circuit has, therefore, very high potential for hunting and viewing and could earn the country more foreign exchange earnings.

Second, for Tanzania to match its image abroad with its unique natural endowment, it ought to learn from Kenya and invest more in tourism promotion abroad, such as providing adequate tourism information to potential visitors globally. This would increase tourist numbers, attract more high-income visitors, and increase tourist per capita expenditure in the country.

Third, the model comparing the perceptions of the tourists interviewed in Tanzania and those interviewed in Kenya indicates that these countries are perceived as different destinations. However, the AIDS model results, which were derived from time series data (and can thus stand better the test of time), indicated that Tanzania and Kenya are substitute markets. Although this result may have been caused by the different policies that these countries adopted rather than by the tourists' free choice, it is important for both Tanzania and Kenya to resist the temptation of marketing the region as a single destination when the recently re-established East African Community starts functioning before taking into account the unique characteristics of each country. Each country may be promoted separately while ensuring that the broad goals of the community are not compromised. Meanwhile, a honest discussion should be held to determine who gets what should the countries decide to operate the industry jointly. Failure to do so will resuscitate the feelings of inequity on the part of Tanzania and may lead to the collapse of the Community, as it did in 1977, leading to great losses on both peoples. It must be emphasized here again that separate tourism development should be a temporary measure, and should be abolished when the level in Tanzania is high enough to withstand competition from Kenya.

Fourth, Tanzania's weaker position in service provision should be countered by ensuring that the tourism sector is served with well-trained personnel; to this end, the country should invest more in quality education. There is also a need to ensure that a well functioning infrastructure exists, including good roads, airports, harbours, telecommunications facilities, financial services etc. Tanzania also needs to ensure that both adequate and good quality accommodation facilities and other tourist services such as professional tour operations and tour guiding are in place.

Fifth, in both Tanzania and Kenya, tourism is a sector that depends on many other sectors to flourish. In Tanzania, for example, decisions of the Ministry of Natural Resources and Tourism, the Vice-President's Office (Environment), and the National Environmental Management Council (NEMC) can all affect tourism. Other organs of which decisions may impact the industry are the Ministry of Transport and Communications, the Ministry of Lands and Human Settlements Development, and the Ministry of Water and Livestock Development. It is important for these countries to integrate tourism policies and strategies with those of other sectors, first to reduce costs that come as a result of effort duplication, and second, to avoid conflicting policies that may stagnate the sector's development.

Finally, both Tanzania and Kenya's tourism benefits have not been extended to the local communities enough to win their cooperation in sustaining the sector. As a result, the countries' tourist sites are vulnerable to negative externalities caused in part by the conflict between tourism development and other economic activities. To win the local populations' complete support, there is a need to genuinely resolve the conflicts between tourism development and other economic activities on which these people depend, raise the share of tourism proceeds to them, and increase the share of local inputs in the tourism industry. For example, to benefit farmers and increase the share of local inputs, training should be provided to the farmers to give them a better understanding of marketing aspects such as how markets work in terms of quantity, quality, packaging, consistency, and timeliness of supply. Empowering the local populations economically by providing them with jobs in the industry will also be a more realistic way of minimizing environmental degradation in the tourist sites than spending on site guards, as most sites (e.g. parks) are too big for effective monitoring.

8.3 The Major Issue: Sustainability of People's Well-being

Having analyzed the study's results, one critical question remains unanswered: "Can the well being of Tanzanians and Kenyans be achieved and sustained through tourism, and if so, what policies should be put in place to achieve this goal?" In an attempt to answer this question, some of the recommendations made in the preceding section are: (1) Both Tanzania and Kenya should develop a " new and better environment" that will encourage more tourist spending; (2) Tanzania needs to invest in improving its image abroad; (3) Tanzania and Kenya are substitute markets and should therefore not market as a single destination in the short run; (4) Tanzania (especially) should invest more in improved infrastructure; and (5) Tourism policy should be integrated with overall government policies to avoid conflicts

It has to be emphasized that while these recommendations are attainable, it does not follow that their attainment guarantees improved well-being of Tanzanians and Kenyans as peoples. For example, more tourist spending in a country will be beneficial to the people if there is a mechanism that strives to ensure an equitable distribution of this newfound income at both the micro and macro levels. Empowering the local people to be active participants in tourism business, as suggested above, is one way to achieve this target at the micro level; at the macro level, revenues that governments collect from tourism should be used in projects that have a real impact on people, such education, health and infrastructural development. A country that uses all the revenues collected from tourism to pay the external debt cannot justly boast of tourism's progress, as the latter does not benefit the country's residents.

The same can be said for image improvement. It must be known that promotion is a costly business that drains on national income. For promotion to be successful, the domestic situation in Tanzania and Kenya must also be conducive for more tourists. Thus, while promoting Tanzania and Kenya abroad, authorities will do well to look at the nature of physical and social infrastructure in these countries. And if, after acquiring a better image, the country in question does not use its additional income to raise the standard of living of its people (and especially those directly affected by tourism business), such a country can hardly attain sustainability of the tourism sector. This is so because while the environment will have to accommodate more visitors, the same environment will not have the sympathy and care of the local people, making its degradation inevitable. In short, the above recommendations and the others made in this study will be fully realized if and when they benefit the common Tanzanians and Kenyans, with more emphasis on those who are directly affected by tourism. The focus should be improvement of the well-being of the people through tourism, not higher numbers of tourist arrivals or tourism revenue collection.

Judging from the findings of this study, tourism numbers may have improved in Tanzania and may have been high in Kenya, but these numbers have not been beneficial to the local people in these countries. This is so because the collection made from tourism is used either unequally in favour of the rich or for activities that do not impact directly on common people's lives. To many local people, tourism can be a burden that they would be pleased to go without. These people do not see why they should sacrifice so much to sustain something that is a burden to them. This is the reason why the local people turned into poachers as it was mentioned in Chapter 7. For tourism to raise the well-being of the people in Tanzania and Kenya, there has to be a dedicated effort to implement the recommendations made here and in other similar studies, with focus on what the common person gains.

8.4 Limitations of the Study and Future Research

The study has the following limitations. First, with regard to the AIDS model, the study would have been more insightful if the role of advertising on tourism growth had been included in the estimation. The importance of doing so stems from the fact that product promotion, including tourism promotion, has normally been on the rise in the region. This was not possible because data on promotion were mostly unavailable, and in the few instances in which they were, the numbers were for too short a period to allow for their inclusion in the estimation in its present form. In addition, transportation costs over the years would be a relevant variable in the formulation of the tourism prices variable; however, time-series data on this variable were rarely available, necessitating the use of the domestic consumer price level (adjusted to the exchange rate) as a proxy. This could lead to biases in estimation especially when the tourism sector lacks many forward and backward linkages to the domestic economy.

Second, with regard to the SPM model, selection bias cannot be ruled out since the responses were sought from those vacationers visiting Tanzania and Kenya only and not from those who were visiting the other countries. To minimize bias, the sample should have consisted of potential vacationers in their home countries interested in visiting Africa. However, this would have involved costs far larger than this study's budget could cover. The fact that the median family income was lower than one would expect suggests that higher income people, constrained with time, may have avoided responding to the questionnaire posed. Bias could also have been exaggerated by the language barrier problem since potential respondents who could not speak English exempted themselves from offering their responses. For example, although a similar study by Rahemtullah (1998) that used four languages to elicit responses had a high percentage of French and Italian interviewees, this study had very few respondents from these nations. Although having the questionnaire translated in various languages would have been desirable, it was deemed too costly to translate and administer questionnaires in languages other than English and therefore broader coverage of tourists was beyond the scope of this study.

There are also some variables that have an impact on tourism (such as violence, the AIDS disease, congestion, poaching, etc.) that one would expect to be included in the choice experiment. In addition to the fact that too many variables would render the choice experiment ineffective (see the discussion in Chapter 5), it was not possible to include all these variables for a number of reasons. First, the researcher was anonymously warned that inclusion of some variables that were deemed injurious to a country's image (such as violence) might lead to being denied permit to conduct this research in one of the two countries. Secondly, some variables have so much information that they deserve a topic of their own; one such topic is poaching (Shah, 1995). Thirdly, some variables were deemed to have a more or less same effect between Tanzania and Kenya and their inclusion would not contribute much in comparing these countries; one such variable is the AIDS disease.

Finally, with regard to the CE approach, some attributes and/or concepts proved difficult to understand. For example, the terms "high price, poor value" and "unique wildlife" were not clear to some respondents. This problem could have been minimized by the use of pictures or computer-generated environmental scenarios to illustrate the attribute levels and combined with text to make the terms clearer, but again, limited resources hampered their inclusion. However, with resources, it is a potential area for future research.

Another area worth considering for future research concerns model segmentation. This thesis segmented the tourist sample according to geographical origin, creating three models so that marketing could be tailored to a specific country's taste preferences. However, as Eagles (1994) suggests, segmenting the entire market into different nature-based user types (e.g., hunting, bird watching, ecotourism, beach, etc.) would provide further successful marketing and managing strategies as doing so provides researchers with more information. In turn, this enables more efficient marketing strategies targeted at these specific users. It is further claimed that such segmentation can provide a broad enough response surface to allow for accurate benefit transfer calculations (Adamowicz et al. 1994). Furthermore, price setting for the different nature-based activities would be more accurate and representative of their true value to these specific users. An alternate method of market segmentation frequently used in the tourism and marketing literature is factor analysis. This technique identifies segments or groups based on attitudes.

Furthermore, previous experiences (bad, good) also contribute to holiday destination choice and should be investigated. Hence, incorporating tourist attitudes and past experiences in the CE model might prove to be a valuable marketing tool. Goodrich (1978) used an attitude model to analyze the relationship between preferences for and perceptions of vacation destinations. Such study in a tourism context should be examined.

In the sustainability section, it was pointed out that tourism is a multi-pronged industry that requires considerable private and public investment, the latter of which is normally not included in the cost and benefit analyses of the industry. Yet, for ease of discussion and analysis, this study has confined itself to a simple definition of tourism sustainability that is based on competitiveness, local benefit, and environmental friendliness. It might have given more insight, for example, to have used growth and harvest rates of the most important wildlife species to determine tourism sustainability, rather than simply concluding that sustainability is in danger on the basis of the limited sustainability definition used. It might as well have been useful to use a cost-benefit analysis to generate the net present value of some policies, such as tax holidays, in order to see whether the benefits generated by such policies are sustainable and benefit the local people. Again, due to data unavailability and resource constraints, these were beyond the scope of this study.

REFERENCES

Adamowicz, W L (1991) "Valuation of Environmental Amenities." Department of Rural Economy, University of Alberta, Edmonton, Alberta. Staff Papers 91-06.

Adamowicz, W. P. Boxall, D. Watson, and T. Peters (1992) "A Socio-Economic Evaluation of Sportfishing Activity in Southern Alberta." Project Report 92- 01, Department of Rural Economy, University of Alberta, Edmonton, Canada.

Adamowicz W.L., P.C. Boxall, J.J. Louviere, J. Swait, and M. Williams (1994) "Stated Preference Methods for Environmental Valuation." Staff Paper 94-07, Department of Rural Economy, University of Alberta.

Adamowicz W.L., P.C. Boxall, J.J. Louviere, and M. Williams (1995) "Stated Preference Approaches for Measuring Passive Use Values: Choice Experiments versus Contingent Valuation." Staff Paper 95-03, Department of Rural Economy, University of Alberta.

Adamowicz W.L., M. Williams, and J.J. Louviere (1994) "Combining Revealed and Stated Preference Methods for Valuing Environmental Amenities." Journal of Environmental Economics and Management 26:271-292.

Adamowicz W. L., J. Swait, P.C. Boxall, J.J. Louviere, and M. Williams (1997) "Perceptions versus Objective Measures of Environmental Quality in Combined Revealed and Stated Preference Models of Environmental Valuation." Journal of Environmental Economics and Management 32: 65-84.

Adams, Jonathan S. and Thomas O. McShane (1992) The Myth of Wild Africa: Conservation Without Illusion. New York: W.W. Norton and Company.

Amemiya, T., (1985). Advanced Econometrics. Cambridge Mass.: Harvard University Press.

Archer, Brian and John Fletcher (1996) "The Economic Impact of Tourism in the Seychelles." Annals of Tourism Research 23 (1):32-46

Asafu-Adjaye (1989). "Issues in Valuation of Nonmarket Natural Resource Commodities: The Case of Wildlife Resources in Alberta. Unpublished Ph.D. Thesis, Department of Rural Economy, University of Alberta, Edmonton, Alberta Canada.

Barbier, Edward B. (1987) "The Concept of Sustainable Economic Development." Environmental Conservation 14, No. 2 (Summer).

Bates, John. (1988) "Econometric Issues in Stated Preference Analysis." Journal of Transport Economics and Policy, January 1988.pp.59-69.

Bates, John (1988) "Stated Preference Techniques and the Analysis of Consumer Choice." Store Location and Market Analysis, Neil Wringle (Ed.) Routledge.

Barten A. P. (1969) "Maximum Likelihood Estimation of a Complete System of Demand Equations" European Economic Review, 1: 7-73.

Bell, Frederick W. and Vernon R. Leeworthy (1990) "Recreational Demand by Tourists for Saltwater Beach Days" Journal of Environmental Economics and Management, 18, 189-205.

Ben-Akiva, M. and S. Lerman (1985) Discrete Choice Analysis: Theory and Application to Travel Demand, MIT Press, Cambridge Massachusetts.

Bjornstad David J. and James R. Khan (eds) (1996). The Contingent Valuation of Environmental Resources: Methodological Issues and Research Needs. Oak Ridge National laboratory, US

Bludell, R. (1988) "Consumer Behaviour: Theory and Empirical Evidence- A Survey." Economic Journal 98, 16-65

Bishop, Richard C. and Thomas A. Heberlein (1988) "Does Contingent Valuation Work?" In Valuing Environmental Goods: An Assessment of the Contingent Valuation Method, Cummings (Ed). Rowman and Allanheld Publishers.

Bockstael, Nancy E., W. Michael Hanemann & Catherine L.Kling (1987) "Estimating the Value of Water Quality Improvements in a Recreational Demand Framework." Water Resources Research, Vol. 23, May, p. 951-960.

Bockstael, Nancy E., K. E. McConnell, and I. E. Strand, (1989) "A Random Utility Model for Sportfishing: Some Preliminary Results for Florida." Marine Resource Economics, Vol. 6, p. 245-260.

Bockstael, N. E., K. E. McConnell and I. E. Strand. (1991). "Recreation." In Measuring The Demand For Environmental Quality, edited by J. B. Braden and C. D. Kolstad. North Holland: Elsevier Science Publishers.

Braden, J. B. and C.D. Kolstad (1991) Measuring the Demand for Environmental Quality. North Holland, New York.

Brookshire, David S. and V. Kerry Smith (1987) "Measuring Recreation Benefits: Conceptual and Empirical Issues."Water Resources Research, Vol.23 May, No 5, p. 931-5.

Brown, G. M jr. and W. Henry (1989) "The Economic Value of Elephants." Working Paper No. 89-12. London Environment Economic Centre.

Brown, J. P. (1984) "Benefits of Outdoor Recreation and Some Ideas for Valuing Recreational Opportunities." In Peterson, G. L. and Randall, A. (eds) Valuation of Wildland Resource Benefits, Boulder, Col.: Westview Press, p. 209-20

Brown, A. and Deaton, A. (1972) "Models of Consumer Behaviour: A Survey." Economic Journal, 82, 1145-236

Butler, R.W. (1990) "Alternative Tourism: Pious Hope or Trojan Horse?" Journal of Travel Research 28(3):40-45.

Burr, Stephen w. (1994) "Sustainable Tourism Development and Use: Follies, Foibles, and Practical Approaches." pages 8-13. Linking Tourism, the Environmental and Sustainability. Topical volume of compiled papers from a special session of the annual meeting of the National Recreation and Park Association, 1994, Minneapolis: MN. October 12-14, 1994. Compilers: Stephen McCool and Alan E. Watson, General Technical Report INT-GTR-323.

Cameron, Trudy Anne (1994) "Estimation Using Contingent Valuation Data From a Dichotomous Choice with Follow-up Questionnaire." Journal of Environmental Economics and Management 27:235-253.

Carroll, J. (1988) Economy: Kenya in Africa South of Sahara, Europa Publication Ltd. Rochester, Kent, UK, p 550-572

Carson, Richard T., Jordon Louviere et al. (1994) "Experimental Analysis of Choice." Marketing Letters 5(4):351-368

Carson, Richard et al. (1994) "A Bibliography of Contingent Valuation Studies and Papers." La Jolla, California, Natural Resources Damage Assessment Inc.

Carson, Richard T., Michael W. Hanemann, and Thomas Wegge, (1989) "A Nested Logit Model of Recreational Fishing Demand in Alaska." Paper Presented at the Western Economics Association Conference, Lake Tahoe, CA, June 22, 1989.

Carson, Richard T., Jordan Louviere et al. (1994) "Experimental Analysis of Choice." Marketing Letters 5(4): 351-368

CBSG (Captive Breeding Specialist Group) (1990), Tana River Primate Reserve: Conservation Assessment Workshop. A Publication of CBSG and Kenya Wildlife Service (KWS), Nairobi, Kenya

Cesario, Frank J. (1976) "Value of Time in Recreation Benefit Studies" Land Economics 52:120-126.

Chachage, C. S., (1994) "Structural Adjustment Policies and Mineral Prospecting in Tanzania." Paper presented at the 9th Economic Policy Workshop, Dar es Salaam, November 28-30.

--------------------(1998), Nimrod and Thomas Cooks: Accumulation and Tourism in Tanzania. Nordiska Afrikainstitut, Uppsala (forthcoming)

Chadwick, Douglas (1992) The Fate of Elephant. Toronto: Key Porter Books.
Chambers, Robert (1990) "Sustainable Livelihoods: Putting Poor Rural First." IDS Paper 240 (Sussex: Institute of Development Studies, University of Sussex).

Chami, C (1998) "Measuring Demand for Game Park Services in Tanzania." Department Staff Papers, University of Gothernburg, April.

Chow, G. (1960) "Tests of Equality Between Sets of Coefficients in Two Linear Regressions." Econometrica, 28: 591-605.

Cooper, Charles (1994) Economic Evaluation and the Environment: A Methodological Discussion with Particular Reference to Developing Countries. Hodder and Stoughton

Coyne , Allison, (1991) "Economic Effects of Environmental Quality Changes on Recreation Demand." Unpublished MSc. Thesis, Department of Rural Economy, University of Alberta, Edmonton, Canada.

Coyne, A.G. and W.L. Adamowicz (1992) "Modelling Choice of Site For Hunting Bighorn Sheep." Wildlife Society Bulletin, Vol. 20, p 26-33.
Cramer, Jan S. (1991) The Logit Model: An Introduction for Economists. Edward Arnold

Crouch, Geoffrey. (1994) "The Study of International Tourism Demand: A Survey of Practice." Journal of Travel Research, Spring: 41-55

Deaton and Muellbauer (1980) "An Almost Ideal Demand System." American Economic Review, 70:512-32.

Eagles, Paul F.J. (1994) "Understanding the Market for Sustainable Tourism." In Linking Tourism, the Environment and Sustainability, Topical volume of compiled papers from a special session of the annual meeting of the National Recreation and Park Association, 1994, Minneapolis, Mn. October 12-14, 1994. Compilers: Stephen McCool and Alan E. Watson, General Technical Report INT-GTR-323. Pages 23-24.

Ecosystem (1985), Tana Delta: Ecological Impact Study. Final Report for Tana and Athi Rivers Development Authority, Ecosystems Ltd., Nairobi, Kenya

EIU (Economist Intelligence Unit) (1990), Kenya: Country Profile 1990-91. Annual Survey of Political and Economic Background, The Economic Intelligence Unit, London UK.

ERB (Economic Research Bureau [University of Dar es Salaam]) (1999), "Macroeconomic Reforms and Sustainable Development in Southern Africa: Tanzania Tourism Case Study." WWF-US/MPO, Washington, DC (forthcoming)

Feldman, Allan M., (1980) Welfare Economics and Social Choice Theory, Martinus-Nijhoff Publishing.

Fletcher, Jerald, J., Wiktor L. Adamowicz, and Theodore Graham-Tomasi (1990) "The Travel Cost Model of Recreation Demand: Theoretical and Empirical Issues." Leisure Sciences, Vol. 12, January, p 119-147.

Freeman, A.M. III, (1979) The Benefits of Environmental Improvement: Theory and Practice. Baltimore: John Hopkins University Press, Resources for the Future.

Freeman, A. Myrick III (1993) The Measurement of Environmental and Resource Values: Theory and Methods. Resources for the Future, Washington, D.C.
Freeman, Ruth and Tamantha Peters (1992) "Random Utility Models." Unpublished Project, Department of Rural Economy, University of Alberta, Edmonton, Canada.

Fujii, E. T. Khaled, M. and Mak, J. (1985) "An Almost Ideal Demand System for Visitor Expenditure." Journal of Transport Economics and Policy, 19, 161-71.

Graham A. D. and I. S. C. Parker (1989) "Elephants, Man and Competition." In The Biology of Large African Mammals in Their Environment, ed. P. A. Jewell and G. M. O. Maloly (Oxford: Clarendon Press).

Grandstaff, S. and J. A. Dixon (1986) "Evaluation of Lumpinee Public Park in Bangkok, Thailand." In Economic Valuation Techniques for the Environment: A Case Study Workbook. John A. Dixon and Maynard M. Hutschmidt (eds.) John Hopkins University Press: Baltimore & London.

Green, Paul. E. (1974) "On the Design of Choice Experiments Involving Multifactor Alternatives." Journal of Consumer Research, 1(2): 61-

Green, P. E. and V. Srinivasan (1978) "Conjoint Analysis in Consumer Research: Issues and Outlook." Journal of Consumer Research, 5(4): 103-123.

Greene, W. H. (1998) LIMDEP Version 7.0, User's Manual. New York: Econometric Software, Inc.

----------------- (1997) Econometric Analysis. Third Edition, New York: Macmillan.

Gronau, R. (1970) The Value of Time Passenger Transportation: The Demand for Air Travel. National Bureau of Economic Research, New York.

Hanemann, W. Michael (1982) "Applied Welfare Analysis with Quantal Choice Models." Working Paper No. 173. California Agricultural Experiment Station, University of California.

____________________(1982) "Discrete/Continuous Models for Consumer Demand." Working Paper No. 198, California Agricultural Experiment Station, University of California.

____________________ (1984) "Welfare Evaluations in Contingent Valuation Experiments with Discrete Responses." American Journal of Agricultural Economics 66: 332-341.

Hanley, Nick, Shogren, & White (1997) Environmental Economics in Theory and Practice. New York: Oxford University Press.

Hartwick, J. M. (1977) "Intergenerational Equity and the Investing of Rents from Exhaustible Resources." American Economic Review, 67 (5): 972-974. Cited in Hanley, Hausman, J. and D. McFadden (1984). "Specification Tets for the Multinomial Logit Model." Econometrica 52: 1219-1240.

Hensher, David. (1994) "Stated Preference Analysis of Travel Choices: The State of Practice." Transportation 21: 107-133.

Honey, Martha (1995). Ecotourism and Sustainable Development: Who Owns the Paradise? Island Press Washington D.C. Covelo, CA

IMF (International Monetary Fund [Annual]) International Financial Statistics. International Monetary Fund, Washington, DC.

Jackson, Ben (1990) Poverty and the Planet. London, World Development Movement.
Johanson, D. and J. Peate. (1976) "The Development and Use of a Model of the Decision-Making Process". Paper presented at the ESOMAR Congress, Venice, 1976.
Johnston, P. and Ashworth, J. (1990) "Modeling Tourism Demand: A Summary Review." Leisure Studies 9, 145-60.

Karugia, J. (1997) "Kenyan Beef Quality: Valuation Methods." Unpublished PhD Thesis, Department of Rural Economy University of Alberta, Edmonton, Canada.

Kidane, Ande-brahn (1975) "Development of Tourism in Northern Tanzania." Unpublished B. Sc. Project, University of Dar es Salaam, Dar es Salaam, Tanzania.

Kisongo, A. M., J. B. Bagambe and F. D. H. Meru (1968) "Tourist Industry in East Africa." East African Literature Bureau.

Koch, Eddie (1997). "Ecotourism and Rural Reconstruction in South Africa: Reality or Rhetoric? In Social Change and Conservation: Environmental Politics and Impacts of National Parks and Protected Areas, Krishna B. Ghimire and Michel P Pimbert (eds). Earthscan Publications Limited

Kroes, Eric P. and Robert J. Sheldon (1988) "Stated Preference Methods: An Introduction." Journal of Transport Economics and Policy January 1988.

Kulindwa, K. and G. D. Mjema (1994) "Structural Adjustment Policies and Export Promotion in Tanzania: A Case of Forest and Forest-Related Products." Paper Presented at the 9th Economic Policy Workshop, Dar es Salaam, November 28-30.

KWS (Kenya Wildlife Service), Main Report (1990a), A Policy Framework and Development Programme, 1991-96, Nairobi, Kenya

Lele, Sharachchandra M. (1991) "Sustainable Development: A Critical Review." World Development 19: 607-621.

Lindsay, W. K. (1990) "Integrating Parks and Pastoralists: Some Lessons from Amboseli." in Conservation in Africa ed. Anderson and Grove, Washington D. C.: The World Bank.

Louviere, Jordan. (1988) "Conjoint Analysis Modeling of Stated Preferences." Journal of Transport Economics and Policy January, 1988.

Louviere Jordan and Harry Timmermans (1992) "Testing the External Validity of Hierarchical Conjoint Analysis Models of Recreationist Destination Choice." Leisure Sciences 14:179-194.

Luce, R.D. and J.W. Tukey (1964) "Simultaneous Conjoint Measurement: A New Type of Fundamental Measurement." Journal of Mathematical Psychology 1: 1-27

Lyogello, Lilla N. (1991) A Guide to Tanzanian National Parks. Tourist Publishing Consult, Dar es Salaam, Tanzania.

Mackenzie, John (1992) "Evaluating Recreation Trip Attributes and Travel Time Via Conjoint Analysis." Journal of Leisure Research 24(2): 171-84.

Maddala, G.S. (1983) Limited Dependent and Qualitative Variables in Econometrics New York: Cambridge University Press.

Mascarenhas, A. and B. Ford (1987) "Resource and Sustainable Community Development: An Agenda for Development Action in Tanzania." *Mimeo.*

Martin, C. A. and Witt, S. F. (1987) "Tourism Demand Forecasting Models: Choice of an Appropriate Variable to Represent Tourists' Cost of Living." Tourism Management 8: 233-46

Mbelle, A.V.Y (1994) "Environmental Policies in Tanzania." In Sterner, Thomas (ed.) Economic Policies for Sustainable Development Kluwer Academic Publishers.

McConnell, Kenneth and Ivar Strand. (1981) "Measuring the Cost of Time in Recreation Demand Analysis: An Application to Sportfishing." American Journal of Agricultural Economics 63(1):153-156.

McConnell, Kenneth E. (1975) "Some Problems in Estimating the Demand for Outdoor Recreation." American Journal of Agricultural Econmics 57(2):330-334.

McConnell, Kenneth E.(1990) "The Economics of Outdoor Recreation." In Handbook of Natural Resource and Energy Economics Vol.2. Allen V. Kneeese and James L. Sweeney (eds). Elsevier Science Publishers B.V.

McCool, Stephen F. (1994) "Linking Tourism, the Environment, and Concepts of Sustainability: Setting the Stage." In Linking Tourism, the Environment and Sustainability. Topical volume of compiled papers from a special session of the annual meeting of the National Recreation and Park Association, 1994, Minneapolis, Mn. October 12-14, 1994. Compilers: Stephen McCool and Alan E. Watson, General Technical Report INT-GTR-323.

McCormick, John (1989) Reclaiming Paradise Bloomington: Indiana University Press, 88.

McFadden, D. (1981) "Econometric Models of Probabilistic Choice." In Structural Analysis of Discrete Data. C. Manski and D. McFadden (eds). p.198-272. Cambridge, MA: MIT Press.

_____________(1972) Conditional Logit Analysis of Qualitative Choice Behaviour. Berkley Institute of Urban and Regional Development, University of California.
McFadden, D., W. Tye ad K. Train (1976) "An Application of Diagonistic Tests for the Independence from Irrelevant Alternatives Property of the Multinomial Logit Model." Transportation Research Board Record # 637, pp.39-45.

McLeod, K, P.C. Boxall, W.L. Adamowicz, M. Williams and J.J. Louviere (1993) "The Incorporation of Non-Timber Goods and Services in Integrated Resource Management: An Introduction to the Alberta Moose Hunting Study-Interim Project Report." Project Report No. 93-12. Department of Rural Economy, University of Alberta.

Meier, Gerald M. (1968). The International Economics of Development: Theory and Policy. Harper & Row, Publishers. New York. Evanston. London.

Ministry of Finance Budget Speech (1999) Dar es Salaam, Tanzania.

Mitchell, F., (1968) The Costs and Benefits of Tourism in Kenya. University College Nairobi, Institute of Development Studies.

__________(1969) "The Value of Tourism in East Africa." University College Nairobi, Institute of Development Studies, Social Science Division. Discussion Paper No. 82 p. 56.

Morley, Clive L. (1994) "Discrete Choice Analysis of the Impact of Tourism Prices." Journal of Travel Research. Fall 1994, p. 8-14.

Morgan, W.D.T. (1988) Physical and Social Geography: Kenya, in Africa South of Sahara, Europa Publication Ltd. Rochester, Kent, UK, p 543.

Nabane, Nontokozo (1995). "Lacking Confidence? A Gender-Sensitive Analysis of CAMPFIRE in Masoka Village." Wildlife Development Series No.3, IIED. In association with CAMPFIRE Collaborative Group. Produced and Published by the International Institute of Environment and Development, London.

NOAA (National Oceanic and Atmosphere Administration) (1993) Report of the NOAA Panel on Contingent Valuation. January 12.

O'Hagan, J. W. and Harrison, M. J. (1984) "Market Shares of US Tourist Expenditure in Europe: An Econometric Analysis." Applied Economics 16: 919-31.

Olindo, Perez (1997) "The Old Man of Nature Tourism: Kenya." In the Earthscan Reader in Sustainable Tourism by Leslie France (ed).

Ostrom, Elinor Governing the Commons: The Evolution of Institutions for Collective Action. Cambridge: Cambridge University Press, 1990.

Ouma J. (1970) Evolution of Tourism in East Africa, East African Literature Bureau, Nairobi, Kenya.

Parikh, A. (1988) "An Econometric Study on Estimation of Trade Shares Using the Almost Ideal Demand System in the World Link." Applied Economics 20: 1017-39.

Pearce, D. (1987) "Mediterranean Characters - A Comparative Geographic Perspective." Tourism Management, 8, 291-305.

Pearce, D (1993) Economic Values and the Natural World. The MIT Press, Cambridge, MA.

Peters, T., W. L. Adamowicz, and P.C. Boxall (1995) "A Random Utility Analysis of Southern Alberta Sportfishing." Project Report 95-02 Department of Rural Economy, University of Alberta.

Pyo, S. S., M. and McLellan, R. W. (1991) "A Linear Expenditure Model for Tourism Demand." Analysis of Tourism Research 18: 443-54

Rahemtulla, Y. (1998) "Environment, Tourism and the SP Method." Unpublished M. Sc Thesis, Department of Rural Economy, University of Alberta.

Rosen S. (1974). "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition." Journal of Political Economy. 82:34-55.

Rowlands, Ian H. (1992) "The International Politics of Environment and Development: the Post-unced Agenda." Millennium Journal of International Studies 21, No. 2: 209-24

Sakai, M. Y. (1988) "A Micro-Analysis of Business Travel Demand." Applied Economics 20: 1481-96.

Shah, Anup (1995) Economics of Third World National Parks: Issues of Tourism and Environmental Management. Edward Edgar Publishing Limited, Gower House, UK.

Smith, V. Kerry (1993) "Nonmarket Valuation of Environmental Resources: An Interpretive Appraisal." Land Economics, 69 (1), February 1993.

Smeral, E. (1988) "Tourism Demand, Economic Theory and Econometrics: An Integrated Approach." Journal of Travel Research, 26, 38-43.

Solow, R. M. (1974) "The Economics of Resources or the Resources of Economics." American Economic Review 64: 1-14.

Sommerlatte, Hillary (1991) "A Case for the Re-Introduction of Safari Hunting in Kenya." Swara 14, no. 4: 10-13.

Syriopoulos, Theodore C. and M. Thea Sinclair (1993) Journal of Applied Economics, 25, 1541-1552, December.

Thomas, Stephen (1995a). "The Legacy of Dualism in Decision-Making within CAMPFIRE." Wildlife Development Series No.4 IIED. In association with CAMPFIRE Collaborative Group. Produced and Published by the International Institute of Environment and Development, London.

-----------------------(1995b). "Share and Share Alike? Equity in CAMPFIRE." Wildlife Development Series No.2 IIED. In association with CAMPFIRE Collaborative Group. Produced and Published by the International Institute of Environment and Development, London.

URT (United Republic of Tanzania) (1996) Integrated Tourism Master Plan. Final Report. Dar es Salaam, April.

URT (United Republic of Tanzania) (1996 b) The Rolling Plan and Forward Budget for Tanzania for the Period 1996/97-1998/99 Dar es Salaam.

URT (United Republic of Tanzania) (1998d) Wildlife Policy. Ministry of Environment, Natural Resources and Tourism, Dar es Salaam.

Van Tonningen, Leslye Rost (1993) "Wildlife Conservation and Sustainable Development in Sub-Saharan Africa." Unpublished Honors Thesis, Department of Political Science, University of Alberta.

Varian, Hal R. (1992) Microeconomic Analysis. 3rd edition, University of Michigan

Walter Enders, Todd Sandler and Gerald F. Parise (1992) "An Econometric Analysis of the Impact of Terrorism on Tourism." KYLOS Vol. 45 p. 531-54.

WCED (World Commission on Environment and Development)[Brundtland Report] Our Common Future. Oxford: Oxford University Press, 1987.

Western, David (1994) Ecotourism: the Kenya Challenge in Kenya Ecotourism Workshop, Proceedings of a Tourism Workshop, Nairobi, Kenya

Wildlife Act (1989), The Wildlife Conservation and Management Amendment Act. The Kenya Gazette Supplement No. 95. The Government Printer, Nairobi, Kenya

White, Anderson T. and C. Ford Runge (1995) "Common Property and Collective Action: Lessons from Cooperative Watershed Management in Haiti." Economic Development and Cultural Change Volume 43, Number 1, October, p. 1-41

__________________________(1995) "The Emergence and Evolution of Collective Action: Lessons from Cooperative Watershed Management in Haiti." World Development Vol. 23, No. 10, p. 1683-98.

White, K. J. (1985) "An International Travel Demand Model: US Travel to Western Europe." Annals of Tourism Research, 12. 529-45.

Woodside, A. G. and I. A. Ronaienen (1978) "Cross-Cultural Analysis of Market Profiles of Domestic and Foreign Travelers." European Journal of Marketing 12(8): 579-587.

World Bank (1989) Sub-Saharan Africa: From Crisis to Sustainable Growth. Washington D.C.: World Bank, 4.

World Bank (1991) Country Report Tanzania. Washington D.C.: World Bank.

World Bank (1991), The Forestry Sector: A World Bank Policy Paper, Washington D.C.: World Bank.

WTO (World Tourism Organization) (1996) Sustainable Tourism Development: Guide for Local Planners.

Zellner, A. (1962) "An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias." Journal of the American Statistical Association 57: 348-68.

APPENDIX 1: ESTIMATION COEFFICIENTS OF MNL SEGMENTED MARKETS (GROUP 1)

Attribute	Description	European	N. American	OTMs
		Coefficient	Coefficient	Coefficient
ASCs	ASC1 (Tanz)	2.157*	2.316*	2.273*
	ASC2 (Kenya)	1.694*	1.836*	1.785*
	ASC3(S.Africa)	-2.651*	-2.839*	1.090
	ASC4 (Other)	0.684*	0.843*	0.414
Travel Cost	TC<\$2000	1.166*	1.232*	0.568*
	\$2000<TC<\$3000	0.132	0.107	0.097
	\$3000<TC<\$4000	-0.089	-0.352	-0.216
	TC>\$4000	1.985*	-1.802*	-1.742*
Wildlife	Unique	0.124	0.080	0.365*
Park Devt	Low	0.450*	0.419*	0.231
	Moderate	0.978*	1.0464*	1.057*
	Heavy	-1.428*	-1.465*	-1.388*
Local Prices	Low/Good Value	-1.519*	-1.621*	0.984*
	Low/ Poor Value	1.556*	1.641*	0.532
	High/ Good Val.	-0.267*	-0.303*	-0.273*
	High/ Poor Value	0.230	-0.283	-1.243
Road	Good	0.524*	0.561*	0.537
Hotel Costs	Low/Good Value	1.448*	1.668*	1.751*
	Low/ Poor Value	-0.139	-0.152	-0.164
	High/ Good Val.	-1.722*	-1.797*	-1.734*
	High/ Poor Value	-0.413	-0.281*	-0.157*
Income	Income1 (Tanz)	0.241*	0.156*	0.149
	Income2 (Kenya)	0.097	0.075	0.076*
	Income3 (S.Afr.)	0.293*	0.239*	0.235*
	Income4 (Other)	0.102	0.060	0.058
Summary Statistics	$L(\beta)$	-2074.44	-2072.836	-1487.317
	McFadden R^2	0.0578	0.0530	0.1459
	Adjusted R^2	0.05452	0.0497	0.1402
	χ^2	254.54	231.99	171.88
	# of obsev	1368	1360	960

* Significant at $\alpha = 0.05$ level

APPENDIX 2: ESTIMATED COEFFICIENTS OF MNL SEGMENTED MODELS (GROUP 2)

Attribute	Description Coefficient	European Coefficient	N. American Coefficient	OTMs Coefficient
ASCs	ASC1 (Tanz)	1.308*	1.984*	1.851*
	ASC2 (Kenya)	1.390*	-0.312	-0.513
	ASC3 (S.Africa)	2.023	3.408	2.798
	ASC4 (Other)	-1.254	-2.394	-2.491
Park Size	Very Big	-1.039*	-1.262*	-1.300*
	Big	0.675	0.101	0.349
	Average	0.475	0.598*	0.561
	Small	0.111	0.563	0.390
Health Risks	High	0.015	-0.004	0.040
Animal Numbers	Small	-0.380	-0.590*	-0.452
	Average	-0.654	-0.688*	-0.894*
	Big	1.034*	1.278*	1.346*
Mode of Travel	Group w/guide	2.257*	2.379*	2.697*
	Individual/guide	1.223	-0.722	-1.339*
	Group w/out guide	-0.526*	-0.362*	-0.573*
	Indiv w/out guide	-1.197	-1.295	-0.785
Direct flights	Exist	0.010	-0.399	-0.235
Camp costs	Low/Good Value	-2.613*	-2.405*	-3.008*
	Low/Poor Value	0.813*	0.455	0.688
	High/Good Value			
	High/Poor Value	1.400*	1.649*	1.731*
		-0.400	-0.301	0.589
Income	Income1 (Tanz)	0.142*	0.044	-0.139
	Income2 (Kenya)	0.292*	0.057	0.001
	Income3 (S.Afr.)	0.073	0.068	0.097
	Income4 (Other)	0.087	0.099	0.177
* Significant at $\alpha = 0.05$ level				

APPENDIX 3: SURVEY INSTRUMENT (GROUP 1)

University of Alberta
Edmonton

Canada T6G 2H1

Department of Rural Economy
Faculty of Agriculture, Forestry, and Home Economics
C. A. Chami, Graduate Student
Phone: (780)492-2265, Fax: (780) 492-0268

Dear Respondent,

I am a graduate student at the University of Alberta, where I am researching the role of environmental quality in attracting tourists to visit African game parks. Critical to my research is the survey of tourists going to Tanzania and Kenya. The survey consists of two parts. The first asks general questions and opinions. The second part requires that you complete a "choice experiment" which involves choosing between four African destinations. The survey takes approximately 15-20 minutes to complete and it is voluntary. All responses will be completely confidential.

The African game parks are among the most beautiful in the world and are enjoyed by many every year. This project will help guide public decisions on future development of wildlife habitats in these countries. Your support is therefore invaluable in helping to preserve the countries' natural environment for future visitors and local people.

By completing this survey, it means that you fully understand the purpose of the research and have consented to participate.

I will be pleased to answer any questions you might have concerning the project or the survey; you may phone me at 254 2 228057 (Nairobi, Kenya), 255 51 760260 (Dar es Salaam, Tanzania) or email me at cchami@gpu.srv.ualberta.ca or at cchami@esrf.or.tz I thank you for your time.

Sincerely,

Cyril August Chami,
Ph.D. Student
University of Alberta,
Edmonton, Canada

PART 1: GENERAL INFORMATION

---

1. What Month did you fly in?

Jan Feb March April May June July Aug
Sept. Oct.

Nov. Dec.

2. What is your final destination? Tanzania Kenya Both

3. Was this your first choice? Yes No

4. Length of Holiday. 1wk 10 days 2 weeks more 2wks

5. a) Purpose of Visit: Business visiting family Holiday

b) If this is a HOLIDAY trip, why did you choose this destination for holiday?

Nature tourism
Beach tourism
Cultural tourism
Shopping

c) If you ticked BUSINESS or VISITING FAMILY, please DO NOT continue with the rest of the survey.

6. Which of the following holiday destinations did you consider for this holiday?

Tanzania Kenya South Africa Botswana
Zimbabwe the Seychelles Comores Other (please specify)____________________

7. a) Have you ever been to Tanzania before?
YES NO.
b) Have you ever been to Kenya before?
YES NO.
c) Have you ever been to the South Africa before?
YES NO.
d) Have you ever been to other Southern Africa countries before?
YES NO.

8. What is your nationality? ______________________

9. Are you over 18 years of age? ______________________

IF YOU ARE UNDER 18 YEARS OF AGE, PLEASE DO NOT PROCEED

10. What is your Age? Please tick one of the categories below.

18- 20 21-30 31-40 41-50 51-60 61-70 +70

11. What is your occupation? Please tick one of the categories below
Manager and administrator
Professional occupation
Associate professional and technical occupations
Clerical and secretarial occupations
Craft and related occupations
Personal and protective services occupation
Sales
Plant and machine operatives
Other occupations

12. Which of the following categories best describes your household's annual income *__before taxes__*? Please tick one category.

US$0-15,000 US$15,001- US$30,000 US$30,001- US$45,000
US$45,001- US$60,000 US$60,001- US$75,000 US$75,001- US$90,000
US$90,001- US$115,000 + US$115,001

PART II: Choice of Holiday Destination (VERSION 2)

In this section, you will examine 16 different scenarios that offer you the choice of vacationing at 4 different destinations **or** not going on holiday at all. Please assume that the 4 destinations presented in each scenario are the **only** destinations that you can choose from for this holiday trip. I would like you to indicate for each scenario which destination you would choose if any given your **CURRENT** lifestyle (i.e. income level; preferences etc.).

The enclosed information sheet entitled "Glossary of Terms" provides detailed information about the terms used in this survey. Please read them before proceeding with this section of the survey.

Example:

Suppose after examining the descriptions of Tanzania, Kenya, South Africa and the rest of Southern Africa (excluding South Africa) below you feel that you would take your holiday at one of these destinations and you prefer South Africa. You indicate this choice by ticking the box under South Africa column as shown below.

Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

FEATURES OF DESTINATION

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Small	Small	Average	Small	
Health Hazards	Exist	Do not exist	Exist	Exist	
Number of Animals in the Parks	Small	Average	Big	Small	
Mode of Visit	Individual without guide	Individual with guide	Individual with guide	Individual without guide	
Charter Flights to Parks	Not available	Available	Available	Available	
Camping Facilities	Low cost, good value for money	Low cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	
	☐	☐	☑	☐	☐

Tick ONE and only one Box

Please complete all 8 of the scenarios that follow. Missing any of these questions will not allow proper analysis of your choices.

1) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Very big	Very big	Average	Small	
Health Hazards	Exist	Do not exist	Exist	Exist	
Number of Animals in the Parks	Average	Average	Big	Small	
Mode of Visit	Group without guide	Group with guide	Individual without guide	Individual without guide	
Charter Flights to the Parks	Available	Not available	Available	Not available	
Camping Facilities	Low cost, poor value for money	High cost, good value for money	Low cost poor value for money	High cost, poor value for money	

Tick ONE and ONLY one box

2) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Small	Average	Average	Small	
Health Hazards	Exist	Do not exist	Exist	Exist	
Number of Animals in the Parks	Big	Big	Big	Small	
Mode of Visit	Individual without guide	Group without guide	Individual without guide	Individual with guide	
Charter Flights to the Parks	Available	Not available	Available	Available	
Camping Facilities	High cost, poor value for money	High cost, Good Value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

3) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Big	Very big	Average	Small	
Health Hazards	Do not exist	Do not exist	Exist	Exist	
Number of Animals in the Parks	Big	Small	Big	Small	
Mode of Visit	Individual with guide	Group without guide	Individual without guide	Individual without guide	
Charter Flights to the Parks	Available	Available	Available	Available	
Camping Facilities	High cost, good value for money	Low cost, good value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

---

4) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Average	Big	Average	Small	
Health Hazards	Exist	Do not exist	Exist	Exist	
Number of Animals in the Parks	Small	Small	Big	Small	
Mode of Visit	Individual with guide	Individual without guide	Individual without guide	Individual with guide	
Charter Flights to the Parks	Available	Not available	Available	Available	
Camping Facilities	High cost, good value for money	High cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	

TICK one and ONLY one box

5) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Average	Average	Average	Small	
Health Hazards	Do not exist	Do not exist	Exist	Exist	
Number of Animals in the Parks	Small	Big	Big	Small	
Mode of Visit	Group with guide	Group with guide	Individual without guide	Individual with guide	
Charter Flights to the Parks	Available	Available	Available	Available	
Camping Facilities	Low cost, good value for money	High cost, good value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

6) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	
Park Size	Average	Big	Average	Small	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Health Hazards	Exist	Exist	Exist	Exist	
Number of Animals in the Parks	Small	Small	Big	Small	
Mode of Visit	Individual without guide	Group without guide	Individual without guide	Individual with guide	
Charter Flights to the Parks	Not available	Not available	Available	Available	
Camping Facilities	Low cost, good value for money	Low cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

7) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD NOT CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Big	Small	Average	Small	
Health Hazards	Do Not Exist	Exist	Do Not Exist	Do Not Exist	
Number of Animals in the Parks	None	None	Little	Heavy	
Mode of Visit	Group with guide	Individual with guide	Individual without guide	Individual with guide	
Charter Flights to the Parks	Good	Poor	Good	Good	
Camping Facilities	Low cost, good value for money	Low cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

8) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Park Size	Big	Very big	Average	Small	
Health Hazard	Exist	Exist	Exist	Exist	
Number of Animals	Big	Small	Big	Small	
Mode of Visit	Individual without guide	Individual without guide	Individual without guide	Individual with guide	
Charter Flights	Not available	Available	Available	Available	
Camping Facilities	Low cost, good value for money	High cost, good value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

END OF SURVEY

Thank you for your cooperation.

APPENDIX 4: SURVEY INSTRUMENT (GROUP 2)

a) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

FEATURES OF DESTINATION

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Total Cost Per person	less than $2,000	Less than $2,000	$2,000 -- $3,000	Less than $2,000	
Unique Wildlife	No unique fauna or flora	Unique fauna or flora	No unique fauna or flora	No unique fauna or flora	
Park Development	Heavy	Moderate	Little	Heavy	
Local Prices	HIGH but GOOD VALUE for money	LOW and GOOD VALUE for money	LOW and GOOD VALUE for money	HIGH but GOOD VALUE for money	
Road Quality	Poor	Good	Good	Good	
Hotel costs/quality	Low cost, good value for money	Low cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	
	☐	☐	☑	☐	☐

Tick ONE and only one Box

Please complete all 8 of the scenarios that follow. Missing any of these questions will not allow proper analysis of your choices.

1) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE
Total Cost Per person	+$4,000	+$4,000	$2,000 - $3,000	Less than $2,000	
Unique Wildlife	No	Yes	No	No	
Park Development	Moderate	Moderate	Little	Heavy	
Local Prices	HIGH but POOR VALUE	LOW but POOR VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Good	Poor	Good	Poor	
Hotel costs/quality	Low cost, poor value for money	High cost, good value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one box

---

2) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Total Cost per person	Less than $2,000	$2,000-$3,000	$2,000 - $3,000	Less than $2,000	
Unique Wildlife	No	Yes	No	No	
Park Development	Little	Little	Little	Heavy	
Local Prices	HIGH and GOOD VALUE	HIGH but POOR VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Good	Poor	Good	Good	
Hotel cost/quality	High cost, poor value for money	High cost, Good Value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

3) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Total Cost per person	$3,000 - $4,000	+$4,000	$2,000 - $3,000	Less than $2,000	
Unique Wildlife	Yes	Yes	No	No	
Park Development	None	Heavy	Little	Heavy	
Local Prices	LOW but GOOD VALUE	HIGH but POOR VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Good	Good	Good	Good	
Hotel cost/quality	High cost, good value for money	Low cost, good value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

4) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Total Cost per person	$2,000 - $3,000	$3,000 - $4,000	$2,000 - $3,000	Less than $2,000	
Unique Wildlife	No	Yes	No	No	
Park Development	Heavy	heavy	Little	Heavy	
Local Prices	LOW but GOOD VALUE	HIGH but GOOD VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Good	Poor	Good	Good	
Hotel cost/quality	High cost, good value for money	High cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	

TICK one and ONLY one box

5) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Total Cost per person	$2,000-$3,000	$2,000 - $3,000	$2,000 - $3,000	Less than $2,000	
Unique Wildlife	Yes	Yes	No	No	
Park Development	Heavy	Little	Little	Heavy	
Local Prices	LOW but POOR VALUE	LOW but POOR VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Good	Good	Good	Good	
Hotel cost/quality	Low cost, good value for money	High cost, good value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

6) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Total Cost per person	$2,000 - $3,000	$3,000 - $4,000	$2,000 - $3,000	Less than $2,000	
Unique Wildlife	No	No	No	No	
Park Development	Heavy	Heavy	Little	Heavy	
Local Prices	HIGH but GOOD VALUE	HIGH but POOR VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Poor	Poor	Good	Good	
Hotel cost/quality	Low cost, good value for money	Low cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

7) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Total Cost per Person	$3,000 - $4,000	$2,000 or less	$2,000 - $3,000	Less than $2,000	
Unique Wildlife	No	Yes	No	No	
Park Development	None	None	Little	Heavy	
Local Prices	LOW and POOR VALUE	LOW and GOOD VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Good	Poor	Good	Good	
Hotel cost/quality	Low cost, good value for money	Low cost, poor value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

8) Assuming the following holiday destinations were the **ONLY FOUR** destinations available when you were making your decision for this holiday, which one would you have picked?

	TANZANIA	**KENYA**	**SOUTH AFRICA**	**OTHER AFRICAN COUNTRIES**	
Total Cost per person	$3,000 - $4,000	+$4,000	$2,000 - $3,000	Less than $2,000	I WOULD **NOT** CHOOSE ANY OF THESE HOLIDAY DESTINATIONS
Unique Wildlife	Yes	No	No	No	
Park Development	Little	Heavy	Little	Heavy	
Local Prices	HIGH but GOOD VALUE	HIGH but GOOD VALUE	HIGH but GOOD VALUE	LOW and GOOD VALUE	
Road Quality	Poor	Good	Good	Good	
Hotel cost/quality	Low cost, good value for money	High cost, good value for money	Low cost, poor value for money	High cost, poor value for money	

Tick ONE and ONLY one Box

END OF SURVEY

Thank you for your cooperation.

Glossary of Terms

PLEASE FAMILIARISE YOURSELF WITH THE TERMS LISTED BELOW BEFORE PROCEEDING WITH THE REST OF THE QUESTIONS IN THE SURVEY.

Feature	**Description**
TOTAL COST PER PERSON ($)	Total cost per person, double occupancy of a 2-week holiday. Includes return airfare, accommodation, breakfast and dinner only
LOCAL PRICES	**Local prices** -Domestic price for excursions; souvenirs, eating out; groceries **Good value for money** –Quality of service is just what is expected or more than expected, given the local price. You would use the service again and/or recommend it to others. **Poor value for money** –Quality of service is less than expected, given the price. You would NOT use the service again and/or recommend it to others.
UNIQUE WILDLIFE	**No unique fauna and flora-** No rare animals or plants but the usual tropical vegetation and animals that are seen in all tropical countries. **Unique fauna and flora** - Animals and plants seen ONLY in that country in nature parks and reserves.
PARK DEVELOPMENT	**None -** No hotels/restaurants on the parks. Very few visitors. **Little -** 1 small hotel (10-12 rms.) / park. No shops. No restaurants. There is no entertainment except what is provided by the hotel. **Moderate** - Few spaced out hotels and small shops. Little entertainment provided at the hotels. Few restaurants and vendors. Visitors include hotel guests and non-hotel guests. **Heavy** - Many hotels per park close together. A large variety of restaurants, entertainment, and shops used by tourists and residents. Many visitors to the park. Hard to find privacy